

Center of Expertise for Preservation of Historic Structures and  
Buildings, Seattle District Corps of Engineers, Seattle, Washington

---

# **Capehart Housing at Fort Huachuca, Arizona**

---

Determination of Eligibility for the National Register Due to  
Association with Richard Neutra, Architect



Prepared for Directorate of Installation Support, United States Army  
Intelligence Center and Fort Huachuca, Fort Huachuca, AZ 85613

**September 1999**

---

# Table of Contents

Executive Summary ..... i

Acknowledgements ..... i

Chapter 1. Introduction .....2

Chapter 2. Investigation Methodology .....4

Chapter 3. The National Capehart & Wherry Housing Program .....6

Chapter 4. Architect Richard Neutra’s Career: Focus on His Significant Housing ..... 10

Chapter 5. Results of Resource Investigations ..... 14

Chapter 6. Summary of Findings .....20

Appendix A .....28

Appendix B .....31

Appendix C .....38

---

# Executive Summary

## Introduction

This report presents the results of research conducted by the Center of Expertise for Historic Preservation (CX) regarding the historical significance of family housing at Ft. Huachuca, Arizona. In June, 1999, the Directorate of Installation Support at Ft. Huachuca contracted with the Center of Expertise for Historic Preservation (CX), at the Seattle District Corps of Engineers, regarding family housing at the installation. The CX was to do a determination of eligibility for listing with the National Register of Historic Places for Ft. Huachuca's Capehart and Wherry family housing.

## Background & Goals

In particular the CX was to determine the association of celebrated architect Richard Neutra (1892-1970) with the design of Capehart family housing built at c during the 1950's. Mr. Robert R. Frankeberger, AIA, of the Arizona State Historic Preservation Office (SHPO), raised the possibility of this association. Should these structures be eligible for listing then repair, maintenance, or demolition, would not be undertaken without consultation with the Arizona SHPO. Previously a number of family housing buildings, considered to be Richard Neutra designed by the Arizona SHPO, were demolished as part of an ongoing quality-of-life plan to provide troops at Ft. Huachuca with adequate housing. The potential historic significance of these buildings was not considered at the time of demolition since the structures were less than 50 years old and did not technically require consultation with the SHPO as an undertaking. Mr. Frankeberger has urged the Directorate of Installation Support for a moratorium on further alteration or demolition of the units until historic significance of the Capehart family housing can be determined.

## Results

The Capehart Family Housing at Ft. Huachuca does not appear to meet any of the critical tests for eligibility for listing on the National Register of Historic Places. Within the ***national*** context there appears no basis to regard the property as a significant historic resource. Eligible Due To Clear Evidence Of Association With Significant Person?

Guideline #10 states that the significance of individuals, and their associations with nominated property, must be substantiated through accepted methods of historical research and analysis.

Our research failed to reveal any written evidence that Richard Neutra was ever associated with the Capehart military family housing at Ft. Huachuca

Blanton & Cole Architects & Engineers of Tucson, AZ, are the only names listed on the title block of all construction drawings for these homes.

No written records exist from the procurement agency that allegedly contracted with Neutra & Alexander Architects for the standardized, prototype, designs.

No written evidence exists within the Neutra estate archives that Neutra & Alexander Architects did prototype designs of military housing for the Los Angeles District Corps of Engineers that was used at Ft. Huachuca. There *is* written evidence of such work being done for Yuma Naval Air Station in Arizona and at Mountain Home Air Force Base in Idaho. See Appendix A.

An archive search for any mention of Neutra & Alexander Architects, or variations on that name, was done at the Los Angeles and Sacramento Districts Corps of Engineers, and the National Archives & Records Administration in Washington, DC and in Laguna Niguel, California. All of these archives are repositories of Ft. Huachuca records of the 1950's and 1960's. No mention of Neutra was found in these archives in connection with Ft. Huachuca.

An oral statement by Rex Willoughby, an employee of Blanton & Cole Architects, does link Neutra & Alexander Architects indirectly with the Ft. Huachuca housing. Mr. Willoughby states Neutra & Alexander was the firm hired to do the prototype housing designs for LA District. Blanton & Cole were later hired to site-adapt the Neutra design at Ft. Huachuca. Mr. Willoughby was not with the firm during this site-adaptation, coming in several years later yet hearing about the arrangement. See Chapter 5.

At best this oral evidence confirms an *indirect* connection of the property to Richard Neutra. We do not know the extent of changes done to Neutra's design by Blanton & Cole Architects in the adaptation process.

### **Eligible Due To Direct Association With The Significant Person?**

Guideline #6 states that significant individuals must be directly associated with the nominated property.

#### **Is Richard Neutra a "Significant Person"?**

Earlier chapters of this report put forth the case that Richard Neutra is a historically significant figure in the realm of International Style architecture. He has been awarded the gold medal for lifetime career achievement by the American Institute of Architects. To investigate the historical significance of the architectural career of Richard Neutra we reviewed his design principles and built work for contributions to International Style architecture. See chapter 4, and Appendix B.

The Ft. Huachuca property must have some connection to the life of the individual in order to be considered an important historic resource. There must be acceptable evidence that the property represents a person's significance in our history. The best example is the individual's homes, offices or workplaces, or locations of important events in which the person played a key role.

None of our research associates Richard Neutra with the Capehart housing at Ft. Huachuca according to acceptable methods of historical research. Neutra's own home and office in Los Angeles, the Health House, would fulfill the intention of this guideline. Nothing at Ft. Huachuca can be found associated with any significant events in Richard Neutra's life. These significant events in Neutra's life did not occur at this property.

### **Eligible As Demonstration Of The Person's Significant Contributions To Architecture?**

Guideline #8 states that a resource should also represent the significant aspects of the person's productive life and important contributions. The property needs to represent the significant aspects of that productivity in some clear manner.

The housing at Ft. Huachuca does not fulfill this requirement. Mr. Neutra's major contributions to the International Style of architecture are better represented in existing homes that are widely acclaimed as his masterpieces such as the Lovell, Nesbitt, and Kaufmann houses. See Chapter 4 and Appendix B for descriptions of these projects.

### **Eligible As Work Less Than 50 Years Old But Of Exceptional Significance?**

Properties that were constructed within the last fifty years, or that are associated with individuals whose significant accomplishments date from the last fifty years, must possess exceptional significance to be listed in the National Register

The military family housing at Ft. Huachuca is indeed less than 50 years old, having been constructed from 1956-1960.

The property at Ft. Huachuca does not possess the exceptional significance required for eligibility. There is no clearly established and broadly recognized significance to this housing recognized in scholarly literature and public consciousness that was uncovered in our research.

Additionally, none of the research performed by Dion Neutra and the CX-HP has established an acceptable level of association with the career of Richard Neutra as the architect responsible for the design of this resource.

### **Eligible As Property Under Criterion C: An Important Example Of An Individual's Skill As An Architect?**

To be eligible under Criterion C, The Ft. Huachuca property must meet at least one of the following requirements, does it:

#### **Embody distinctive characteristics of a type, period, or method of construction?**

The Ft. Huachuca property does not embody the best examples of the International Style architecture in the United States or abroad. No scholarly discussion of the property as such is found in our literature search.

However, in another section of this report we discuss the historic significance of the Capehart and Wherry Housing program, and the Ft. Huachuca property as an example of a Cold War Era resource.

#### **Represent the work of a master?**

The Ft. Huachuca property cannot be associated directly as the work of Richard Neutra. The written evidence shows no connection between Richard Neutra, nor his firm, and the Ft. Huachuca property. The oral evidence suggests only an indirect association at best.

### **Possess high artistic value?**

There is no evidence in our research that the Ft. Huachuca property possess a high degree of artistic value to the nation or state of Arizona. We found no mention of awards, scholarly criticism, nor strong sentiment in the public consciousness to indicate such value

### **Represent a significant and distinguishable entity whose components may lack individual distinction.**

This portion of Criterion C refers to districts. A district must be important for historical, architectural, archeological, engineering, or cultural values. Districts that are significant will usually meet the last portion of Criterion C plus Criterion A, Criterion B, other portions of Criterion C, or Criterion D.

The significance of the Ft. Huachuca Capehart family housing as a historically significant district has not been established in this research report or other written studies. Significance will not likely be based on any direct association with Richard Neutra. The allowable evidence for such connection cannot be found.

### **Eligible For Nomination as a Cold War Era property?**

In light of the obscure connection of the Ft. Huachuca Capehart housing to Richard Neutra, are there other options to determine historic significance of the property for listing on the National Register?

The United States Army Environmental Center (AEC) developed a report entitled "For Want of a Home...A Historic Context for Wherry and Capehart Military Family Housing". The Ft. Huachuca properties are typical examples of these remarkable building programs undertaken by the Department of Defense during the Cold War. Toward the end of the 179-page report is an application of National Register Criteria A through C and National Register Criteria Consideration G. The following is an excerpt of that report as it applies to the Ft. Huachuca property:

#### **Criterion A: Event**

Some members of the preservation community have suggested that Wherry and Capehart housing may be historically significant for their presumed relationship to the Cold War. The Cold War period of association is for buildings constructed between 1945 and 1989.

Were the buildings and structures directly involved with Cold War activities?

There is no question that Wherry and Capehart housing eased the plight of military families. Were they better able to maintain a decent standard of living, and was their morale improved by the existence of these houses? Could Cold War activities have continued without the houses? Most probably so. While the absence of appropriate quantities of family housing made life more uncomfortable for the families, and the construction of the housing made life easier, the fact is that the Cold War was not critically reliant upon Wherry or Capehart housing to maintain the war effort.

Would the buildings and structures have existed if there had been no Cold War?

It must be acknowledged that the numbers and types of Wherry and Capehart housing would most likely have existed whether there were Cold War activities or not. The fact is that these

houses were constructed on installations involved in a wide range of activities, which had existed prior to the Cold War, including tank driving, field maneuvers and WWII-type aerial surveillance training. There is no question that the U.S. military grew substantially to meet perceived defense needs of both the Cold War and other confrontations during the late 1940s and the 1950s, and that the military housing stock grew along with the population. Likewise did the numbers of schools, health centers, hospitals, convenience marts, churches and gas stations.

To say that Wherry and Capehart housing was constructed *solely because of the Cold War*, however, is placing greater importance than is due to support facilities.

### **Criterion B: Person**

In evaluating Wherry and Capehart housing under Criterion B, it needs to be determined whether important planners, architects, members of Congress, or military leaders played a part in the programs. Wherry housing was planned and designed by staff members of the Army Corps of Engineers, or employees of the development firms responsible for the construction of the homes. No research has indicated that anyone notable in planning or architecture was associated with these programs.

A search of historic records has revealed no connection between any historically significant people either inhabiting this housing, or carrying out any historically exceptional acts in Wherry or Capehart housing. Therefore, the historic significance of these buildings cannot be justified under Criterion B.

### **Criterion C: Design/Construction**

Criterion C applies to properties significant for their physical design or construction, including such elements as architecture, landscape architecture, engineering, and artwork. A key component of this criterion is the use of the term distinctive characteristics.

Wherry and Capehart housing designs are identical to millions of other homes constructed across the United States during the 1950s and '60s. Similar or often identical plans were used for civilian housing and for the military. Even in multi-family units, the same plans were used for the military as had already been constructed for civilian housing. Materials and construction methods used in these houses were likewise indistinguishable from civilian housing, or from other military housing being constructed with appropriated funds.

Wherry and Capehart housing is not physically distinctive, and therefore, significance under Criterion C cannot be justified.

### **Criterion Consideration G: Properties that Have Achieved Significance within the Past Fifty Years**

Wherry Housing was constructed between 1949 and 1955 and Capehart Housing between 1955 and 1962. Consequently, a significant number of these buildings are not yet 50 years old. The National Register Criteria for Evaluation exclude properties that have achieved significance within the last fifty years unless they are of *exceptional importance*. The phrase *exceptional importance* may be applied to the extraordinary importance of an event or to an entire category of resources so fragile that survivors of any age are unusual. This test does not require that the property be of national significance. It is a measure of a property's importance within the appropriate historic context, whether the scale of that context is local, State, or national.

Within a national context, Wherry and Capehart housing does not meet this test of exceptional importance.

## Conclusion

Based upon the research conducted and evaluation of Wherry and Capehart housing in accordance with the National Register Criteria, it is recommended that these buildings are not eligible at a national level of significance, for the National Register of Historic Places. In addition, as these housing units were constructed between 1949 and 1962, a significant number of these buildings are not yet 50 years old. The National Register Criteria for Evaluation exclude properties that have achieved significance within the last fifty years unless they are of *exceptional importance*.

Within a national context, Wherry and Capehart housing does not meet this test. Using this historic context as a basis, an evaluation of local or State level significance may be conducted on a case-by-case basis in accordance with the National Register Criteria for Evaluation, however, it is believed that Wherry and Capehart housing will rarely meet this standard.



---

# Acknowledgements

We would like to express our thanks to the individuals who assisted us in this research effort:

The personnel of the Family Housing at Ft. Huachuca, particularly Grace White, Sylvia Pete, and Noe Barrerra.

John Murray, cultural resources manager at Ft. Huachuca, AZ

Dion Neutra, AIA, architect; Executive Consultant [son and partner of Richard Neutra] Institute for Survival Through Design, 2440 Neutra Place, Los Angeles 90039

Ron Stonebreaker, AIA, for his research on the Neutra Housing at Mountain Home Air Force Base, Idaho

Ralph Comey, AIA, of Ralph Comey Architects, Tucson, Arizona for granting permission to use his report on Neutra Housing

Rex Willoughby, AIA, Executive officer of Blanton/Cole Architects of Tucson, AZ

---

# Chapter 1. Introduction

## Background

In June, 1999, the Directorate of Installation Support at Ft. Huachuca contracted with the Center of Expertise for Historic Preservation (CX), at the Seattle District Corps of Engineers, regarding family housing at the installation. The CX was to do a determination of eligibility for listing with the National Register of Historic Places for Ft. Huachuca's Capehart and Wherry family housing.

In particular the CX was to determine the association of architect Richard Neutra (1892-1970) with the design of Capehart family housing built at Ft. Huachuca during the 1950's. Mr. Robert R. Frankeberger, AIA, of the Arizona State Historic Preservation Office (SHPO), raised the possibility of this association. Should these structures be eligible for listing then repair, maintenance, or demolition, would not be undertaken without consultation with the Arizona SHPO. In absence of such eligibility the property is handled within the existing Family Housing strategic plan, without constraint of the listing guidelines.

Previously a number of family housing buildings, considered to be Richard Neutra designed by the Arizona SHPO, were demolished as part of an ongoing quality-of-life planning by the Army to provide troops at Ft. Huachuca with adequate housing. The potential historic significance of these buildings was not considered at the time of demolition since the structures were less than 50 years old and did not technically require consultation with the SHPO as an undertaking. Mr. Frankeberger has urged the Directorate of Installation Support for a moratorium on further alteration or demolition of the units until historic significance of the Capehart and Wherry family housing can be determined. This report is intended to guide decision-makers to determine the extent of that historic significance.

## Report Organization

This research report is presented in the following chapters:

Chapter 2 describes the resource investigations employed in this report. Research goals & methodology are presented, including the archive searches, interviews, and literature reviews. Criteria for evaluation of properties for listing on the National Register of Historic Places are presented.

Chapter 3 presents the historical background of the Federal Capehart & Wherry family housing program. Historic context of Ft. Huachuca's Capehart & Wherry family housing is described as part of the national post-World War II and Cold War Era military housing program.

Chapter 4 provides an overview of Richard Neutra's career as an acknowledged leader in the International Style of architecture. In particular this chapter looks at Neutra's significant housing designs. His housing concepts and significant built work are reviewed to clarify the relationship to Ft. Huachuca's Capehart housing examples.

Chapter 5 details the findings of resource investigations for this report. Results are presented of archive searches, interviews, and literature reviews. Relationship between Ft. Huachuca's Capehart & Wherry family housing and architect Richard Neutra are described.

Chapter 6 assesses the property's historical significance, as revealed by the research, vis-à-vis applicable evaluation criteria for the National Register. Findings are summarized for executive decision-makers.

Appendix A presents correspondence with Dion Neutra describing his work for the CX\_HP.

Appendix B is an essay by architect Ralph Comey, AIA, describing the career accomplishments of Richard Neutra

Appendix C has excerpts from an AEC report on the national significance of the Capehart and Wherry Housing programs

---

## Chapter 2. Investigation Methodology

A three-pronged investigation strategy was established to determine the historic significance of the Capehart family housing at Ft. Huachuca, based on the Neutra connection,

### **Contact heirs of the Neutra estate for evidence of Ft. Huachuca work in their archives**

By way of Internet searches on Neutra we contacted Dion Neutra, the architect's son and partner. Dion Neutra, is the Executive Consultant at the Institute for Survival Through Design, 2440 Neutra Place, Los Angeles 90039. We contracted with Mr. Neutra to search his firm's archives for Ft. Huachuca housing.

### **Investigate Ft. Huachuca records for evidence of the Neutra connection.**

We obtained copies of the construction drawings of three basic plan types at Ft. Huachuca. We have the 2-bedroom and 3-bedroom plans for non-commissioned officers, company-grade officers, and field-grade officers.

The 1956 construction drawings of the units show Blanton & Cole Architect-Engineers, of Tucson, AZ, as the architect of record. We contacted a former employee of the defunct firm, Mr. Rex Willoughby for information.

The drawings also indicate that the Los Angeles District of the U.S. Army Corps of Engineers administered this Title VIII Capehart housing. We contacted this District for information in their archives. The Sacramento District of the Corps of Engineers also held archives once kept by the LA District. We queried archivists there as well for details of the Neutra-Ft. Huachuca connection.

CX-HP also researched the National Archives and Records at Laguna Niguel, California, and at College Park, Washington DC. Throughout the history of Ft. Huachuca, and the Los Angeles district Corps of Engineers, records have been deposited in these archives. We investigated this resource for mention of Richard Neutra, Ft. Huachuca, and/or Los Angeles District military family housing.

In 1990 the Corps of Engineers, to preserve a group of row houses in the Deanza I neighborhood at Ft. Huachuca, hired architect Ralph Comey, of Tucson, AZ. As a result of his work in Deanza he wrote an article "Richard Neutra and His Military Housing at Ft. Huachuca". We contacted Mr. Comey regarding his report.

Finally, the Environmental Compliance Coordinator (ECC) at Mt. Home Air Force Base mentioned to us that they have housing units designed by Richard Neutra. We contacted the installation and obtained plans and photographs of the units to establish similarities with Ft. Huachuca housing.

**Identify applicable criterion whereby the property may be eligible for listing on the National Register of Historic Places.**

***Evaluation Criterion A, Association to a broad pattern of our national history.*** association of Capehart housing with the history of the Cold War. To determine historic significance of the housing program we obtained the Army Environmental Center Report “For Want of a Home—A Historic Context for Wherry and Capehart Military Family Housing”

***Evaluation Criterion B, Association with the lives of people significant to our past,*** i.e. Richard Neutra, would make the Capehart family housing historically significant and eligible for listing with the National Register of Historic Places. To investigate the historical significance of the architectural career of Richard Neutra we reviewed his design principles and built work for contributions to International Style architecture.

***Criterion Consideration G, Properties that have achieved significance within the past 50 years,*** would give the Ft. Huachuca Capehart family housing exceptional importance, i.e. Richard Neutra’s stature as an acclaimed International Style architect. To investigate the historical significance of the architectural career of Richard Neutra we reviewed his design principles and built work for contributions to International Style architecture.

***Evaluation Criterion C Properties that embody the distinctive characteristics*** of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

---

## Chapter 3. The National Capehart & Wherry Housing Program

This chapter presents the historical background of the Federal Capehart & Wherry family housing program. Historic context of Ft. Huachuca's Capehart & Wherry family housing is described as part of the national post-World War II and Cold War Era military housing program.

Wherry and Capehart housing was constructed by and for DoD under two separate programs. The housing dates from 1949 through 1962. Its purpose was to provide military housing equal to housing in the private sector. The Army had no standard plans; rather, local contractors built housing developments on military bases similar to construction on private land.

Recent Congressional hearings have addressed the issue of Wherry and Capehart housing as substandard and not acceptable for DoD housing. The housing stock thus is subject to major renovation and/or demolition. Housing budgets will also dictate actions regarding Wherry and Capehart housing.

The Army has recognized the need to study Cold War era historic resources, such as Wherry and Capehart housing in order to evaluate its historic significance. As a result, an Army-wide historic context has been developed for use by installations as guidance in the analysis of the significance of Wherry and Capehart housing. This context details the status of military family housing during the 1940's, prior to the introduction of Wherry housing, it details how regulations and legislation enacted during the periods of each housing program influenced the design of the housing and the neighborhoods, and it provides examples of Wherry and Capehart plans, accompanied by an analysis of the successes and failures of the programs and the housing. Finally, the context provides a framework for National Register evaluation, including analysis of the National Register criteria and criteria considerations, and a discussion of state and local significance.

The Wherry and Cape Military Family Housing Historic Context is national in scope, and therefore, provides background for installations to evaluate their inventory of Wherry and Capehart housing. This context is provided as a tool to installations as they undertake case-by-case evaluation of these structures, utilizing the research and guidance provided in this context.

The Wherry and Capehart Military Family Housing Historic Context ("For Want of a Home..." A Historic Context for Wherry and Capehart Military Family Housing PDF 7.36MB) is now available on DENIX, user account and password required.

The following is excerpted from the report by the United States Army Environmental Center, at Aberdeen Proving Ground, Maryland. The report is entitled ***"For Want of a Home...A Historic Context for Wherry and Capehart Military Family Housing"***:

Introduction

The following is a history of solutions tested by the Department of Defense (DoD) to correct the abysmal living conditions available to military families during the early years of the Cold War. In particular, it is an analysis of the legislative, architectural and planning issues that influenced two of the larger and more influential military family housing programs in DoD history: Wherry and

Capehart housing. These programs spanned from 1949-1955 and from 1955-1962, respectively, and provided nearly a quarter-million military family housing units. While these two programs were responsible for the construction of a significant number of housing units, they were only two of several military programs designed to provide housing to military families. In addition, the social and community planning concepts that influenced Wherry and Capehart housing were also illustrated in housing developed by numerous other government and private sector entities during this time period.

Of the nearly 175,000 units that remained in the DoD as of 1995 listings provided by the Departments of the Air Force, Navy and Army, the Army owned a total of 19,367 Wherry housing units and 34,562 Capehart units. These are located throughout the United States.

Just as the start of the Cold War era marked the beginning of Wherry and Capehart housing, the end of this period marks the demise and destruction of these housing units. A concern regarding the status of Wherry and Capehart housing began in the early 1990s as the Army and DoD were reviewing the overall history of the Cold War in an attempt to determine the significant historic resources of that period of military history. This historic context of Capehart and Wherry housing is one product developed out of that review.

The U. S. Army Environmental Center recognized the need to study Wherry and Capehart housing for two primary reasons: to evaluate their historic significance and to share the lessons learned from these programs with the Army housing office. Historic preservation regulations within the Department of Defense stipulate that any buildings greater than fifty years of age may be historically significant, and therefore, fall under the purview of the National Historic Preservation Act of 1966. Since the end of the Cold War, the DoD has also required all installations to determine whether they have buildings with significant attachment to Cold War activities, so the history of that period (1946-1989) is not lost.

Historically significant buildings which are impacted by Federal projects require some form of mitigation. Sometimes this mitigation is in the form of preservation of the building itself; at the very least, mitigation may take the form of historic documentation to preserve their history. Mitigation is generally a very costly undertaking; the funding necessary to document Wherry and Capehart houses would deplete scarce dollars installations need to maintain the rest of their buildings. Therefore, it is the desire of the Army to study Wherry and Capehart housing in order to determine if they must be considered and treated as historically significant.

The second goal of this study, to assess the success of the programs, could prove useful to the Army Housing Office. As the current military housing stock is aging, the services are looking at ways to replace housing units in the most cost-effective manner. In the mid-1990s, the Army and the Air Force began reviewing possible programs that they might initiate. As part of this effort, they have considered

resurrecting parts of the Wherry or Capehart programs. A history of the legislative and financial aspects of Wherry and Capehart coupled with an analysis of the housing plans and planning would help the services make more informed decisions regarding future housing decisions. To facilitate these two goals, this Army-wide historic context has been developed for use by the installations, as guidance on the analysis of Wherry and Capehart housing and the evaluation of its significance on specific installations.

## Methodology

Research for this study was guided by the needs of the DoD, and the Army in particular. As such, it followed a double path: capturing the history of the Wherry and Capehart programs;



and investigating the evolution of the plans and planning strategies. Because of the similarity between military houses and those constructed in Levittown, a famous post-WWII mass-housing development in New York, studies of that development were used as a model for research. The social, legislative and architectural events of the era were reviewed to determine how these influences affected the design of the homes. Further, Wherry and Capehart housing were compared with typical low- to middle- income housing of the 1950s and '60s to determine how military and civilian homes and neighborhoods were similar in design and social impact.

Primary and secondary data was collected on Wherry and Capehart housing at several installations and at the National Archives in Washington, DC. This formed the basis for the legislative and architectural history of the programs. Interviews were also conducted with current and former employees of the Army housing office at Ft. Belvoir who had played active roles in the Wherry and Capehart programs. They contributed to the understanding of the goals and difficulties of the two programs. Finally, surveys were sent to 250 families, all members of The Retired Officers Association in Florida, to capture the impressions and memories of former residents of Wherry and Capehart housing. Comments from these surveys helped develop a more intimate understanding of these housing programs from the residents' points of view. Review of questionnaire data further helped to create a realistic appraisal of the strong and weak design aspects of these homes, in hopes that this information might be useful to defense housing planners as they look toward the next generation of military housing.

This study is divided into four parts. The first details the status of military family housing during the 1940s, in the years just prior to the introduction of Wherry housing. This section provides examples of the housing available to military families at that time, and the solutions the military, the government and the military families themselves developed to help relieve the abysmal living conditions forced upon many young military families during that period. It will also help the reader better understand the urgent need for the massive military housing programs begun in 1949.

The second and third parts of this study investigate Wherry and Capehart housing, respectively. Military and Federal Housing Authority (FHA) regulations and legislation enacted during the periods of each housing program are discussed in an effort to illustrate how these measures influenced designs of the housing and the neighborhoods, as well as the people who inhabited them. A comparison of civilian housing with Wherry and Capehart programs is also discussed. In the fourth part, examples are given of Wherry and Capehart plans as they were originally built and an analysis is provided of what was considered successful or not, based in part upon personal interviews and mailed survey responses of former Wherry and Capehart residents.

---

## Chapter 4. Architect Richard Neutra's Career: Focus on His Significant Housing

Chapter 4 provides an overview of Richard Neutra's career as an acknowledged leader in the International Style of architecture. In particular we look at the housing design he has done for comparison to the Ft. Huachuca property. This review will help describe the importance of Ft. Huachuca's Capehart housing vis-à-vis the significant housing examples for which Neutra is acclaimed.

Below is an excerpt from Mr. Ralph Comey's article ***"Richard Neutra and His Military Housing at Fort Huachuca"*** Mr. Comey reviews Neutra's significant built housing work. See Appendix B for the full report which elaborates on Neutra's design principles, commercial projects, training, mentors, and urban design commissions.

"Richard Neutra (1892-1970) was an important architect of the modern movement who practiced in Southern California between the 1920's and the late 1960's. During the early years, Neutra's work was a departure from the prevalent traditional architecture of the day. He was fundamentally an International Style architect who used modern technology but brought a humanistic interest and poetic sensitivity to his work. He saw the machine as a positive instrument which could help provide benefits in the creation of new communities and cities. He visualized a collaboration between architecture and industry which unfortunately, never was realized. Most of his projects were carefully designed individual buildings. Although Neutra designed for many climates and countries, he had a special affinity for sunny regions. He was a modern classicist who developed an individual style which evolved slowly and seldom deviated from his original concept of architecture. His buildings expressed the machine and contrasted with nature, but were carefully composed to provide beauty and harmony in a natural setting.

Neutra grew up and trained in Vienna. He was influenced by the early modern architects who practiced there - Otto Wagner and Adolf Loos. Wagner's work evolved from the traditional Renaissance style and started to express the elements of construction-the structural frame and the wall as a system of panels. He believed that modern architecture depended for its effect on simple forms and beautiful proportions. Loos made a complete break with the past and formed buildings into their cubic elements with smooth surfaces and punched wall openings. All ornament was eliminated. He proposed a machine aesthetic and praised simple functional design in utilitarian objects. However, he was a theorist who had few commissions. Neutra also was influenced by Frank Lloyd Wright's 1911 Wasmuth/portfolio and Wright's use of the open plan and the manipulation of space.

In 1923, Neutra left Germany because of the crippling inflation that was disrupting society and came to the United States. He went to Chicago where he met Louis Sullivan and Frank Lloyd Wright, and during 1924, he spent several months in Wright's drafting room in Taliesin. During the same year, he worked in Chicago for Holabird and Roche where he worked on the 2400 room New Palmer House, his first chance to observe the organization of a large building. While Neutra appreciated the practical experience, he felt that the big offices of the day were successful machines that bypassed genuine architecture.

Neutra's first period of work between the Jardinette Apartments of 1927 and the Nesbitt House of 1942 was one of exploration and discovery. Since his career had been long delayed, his creative energy surged forth. His projects during this phase involved the use of many new materials and construction systems. He developed new details and practices. He experimented widely, but his designs were functional and attractive. His work helped change the course of architecture.

Three apartment projects show the evolution of his style. The Jardinette Apartments (1) were constructed of reinforced concrete. The structure was expressed on the facades, with long spanning beams allowing strip windows below and projecting walls and floor slabs forming cantilevered balconies-simple alternating bands of solids and voids. By 1938, the Strathmore Apartments (2) show a similar horizontal banding with smooth surfaces, but utilized with more assurance and better proportions. The roof plan has become a thin slab floating above the strip windows. The floor plan organization provides improved livability-more like single dwellings with outside private entrances and broad terraces. Here, the structure is wood framing with a stucco skin, a lighter and more economical system suitable for California. The Kievman Apartments of 1948, a smaller project, is more compact, and has a freer but more complex floor plan. The design themes and materials are similar, but more landscaping is used.

The Lovell House of 1928 was a large, complex steel frame house with gunite concrete spandrels interpenetrating glass panels framed from steel casements. The structure and windows were fabricated in sections and assembled on the site. The balconies were suspended from the roof frame by steel cables. The house was published widely and Neutra was hailed as a technological wizard. He returned to Europe in 1930 as an American delegate to the CIAM conference and he was invited to speak in Japan and the Bauhaus. His second book, *Amerika*, was published in Vienna.

On his return to New York, he was asked by the White Motor Company to design an aluminum motor home. His own house, built in 1933, was funded by a research grant. It was a modest two-story structure facing Silver Lake, but contained innovations such as a divided plan with teen-age living quarters for his three sons, and an office area. A standard wood frame is carried by precast concrete floor joists which allowed wide openings to be constructed economically. Electrically operated sliding glass panels open the informal garden-living room to the patio and folding doors open the formal living room to a porch overlooking the lake. There also was a light strip in the overhang soffit which lighted the garden.

Neutra continued to innovate during the thirties. He used steel walls prefabricated in sections for the 1936 California Military Academy and in 1937 for the Beckstrand House he used aluminum coated steel in 1936 for the skin of the Von Sternberg House and hollow walls of metal floor deck for the 1935 Beard House. The Beard House had an imaginative, practical plan and received the Gold Medal Award of the Better Homes of America. In the Beckstrand House, he tried out diatomaceous earth for floor and roof slabs (lightweight panels of microscopic seashells.) He used cement asbestos panels for single-wall construction when they came on the market, and in 1936 he designed an exhibition house with plywood wall panels.

A new phase in Neutra's work began in the 1940's. Because of the material shortages caused by World War II, he turned to the traditional materials-redwood, brick and glass-for the Nesbitt House of 1942. But it was a greater transparency here that characterized the new period, and not the materials. A view through the house at the entrance plus the reflections of a mirrored wall created a feeling of openness. Also, the plan was extended and opened.

The Kaufmann house, 1946, is basically an extended pavilion with thin roofs resting on slender columns. The west exposure is screened by louvers, and the southern and eastern exposures are glazed and open to the site. Wall extensions link the house to the site. The general feeling of the house is of floating roof planes and a weightless enclosure of space. The house is frankly technological and contrasts with the natural desert surroundings but the boulders and the native plantings and the openness of the house itself help link exterior to interior and create a harmonious relationship. In fact, it should be noted that Neutra's design intentions and his construction systems and details help create not only interesting sculptural compositions when viewed from the exterior but also provide the user an experience of interconnected space and a feeling of indoor-outdoor relationships.

The Tremaine House, 1948, with its reinforced concrete structure, is simpler and less articulated. The spaced columns, cantilevered beams, and thin roof seem effortless and classical. The cross-shaped plan developed open pavilions with broad expanses of glass and extending walls and terraces which tie the house to the site. The house resembles a Greek Temple. Glazing is used in clerestories, between beams, and with corner butt joints to create a feeling of openness to the site. Occasionally mirrors are used on walls to dissolve them. Rocks and native landscaping are used effectively to bring nature close to the house.

By 1950, Neutra's work had become simple and direct, with a confident handling of post and beam construction and a masterful command of enclosed space. Two new elements appeared more frequently in his work---water, and the outriggered structure.

Both devices are used in the Moore House, Ojai, 1952, which seems to float above a garden pond. There is a suspended roof edge and an extended "turned-down" beam. These add shadows and a feeling of weightlessness and spatial movement. The Hansch House, 1955 opens to the view but vigorously expresses the split-level plan with extended roofs, beams, and outriggers. These late houses express a humane functionalism and a marvelous richness of space.

Neutra did some important work in community design and housing. Between 1923 and 1930 he worked on a model city of one million population called "Rush City Reformed". All forms of transportation were interconnected. The city block was a long narrow strip exposed to the sun, and a variety of housing solutions were included. There were neighborhood traffic free plazas as well as parks.

Certain principles in Rush City Reformed were followed later in his community housing and even in smaller projects. All houses faced green parkways which thus provided safe areas for children to play. Narrow streets at the rear of houses provided auto access. The property line was ignored and the front lawns were treated as common parks, in order to destroy the usual self-centered confinement of the individual house. Neutra wanted to enlarge horizons and extend property lines. In the Argent Place development at Silver Lake for a number of individual houses, he developed a pleasant openness while at the same time creating privacy. A project for a community of 600 families in Jacksonville, Florida, 1939, locates through traffic at the perimeter with double rows of houses facing green areas which lead to a lineal park.

In 1942, Neutra designed Channel Heights Housing, a 600 dwelling community for wartime shipyard employees which included schools, nurseries, community hall, health center, shops-

even a garden center. The community was located on a difficult, rolling site cut by canyons, Neutra fitted the houses to the contours of the land and treated the site as a park with one and two story houses integrated in groups. There was a similar separation of auto and pedestrian areas as in Rush City.

In the Fifties, Neutra and Alexander did a ten year master plan for the island and port city of Guam, and designed a number of urban redevelopment plans, including a 3,400 family project for downtown Los Angeles which unfortunately was not built.

---

## Chapter 5. Results of Resource Investigations

This chapter details the findings of resource investigations for this report. Results are presented of archive searches, interviews, and literature reviews. Relationship between Ft. Huachuca's Capehart & Wherry family housing and architect Richard Neutra are described.

### **DION NEUTRA, Results of Archive Search**

Below is correspondence from Dion Neutra summarizing the contract we had with him and the results of his investigation:

9/19/99      Dear Ezra:

NEUTRA AT FT HUACHUCA - DION NEUTRA,

#### BACKGROUND

The firm of Neutra and Alexander prepared standard plans and specs for Army Family Housing as a part of the Capehart program for the Los Angeles District office of the Corps of Engineers in the mid 1950s. This commission flowed from a visit made to the Washington HQ of the Corps earlier that same year.

As a result of that work, several projects at various bases were carried out using these standard documents. The usual scenario was that a local A&E firm would be commissioned to site-adapt the documents to the local situation.

#### GOALS

I was approached by Ezra Abraham of the Army some six months ago or more with the question: "Can you help us establish that surviving Army Family Housing at Ft. Huachuca was designed by Richard Neutra?"

The Goal here, was to establish the connection between the examples of housing which survive there and Richard Neutra, and to certify that the houses were worth saving and restoring on that basis have been working with Ezra since to piece together how that project came into being

#### METHOD OF RESEARCH

I started out by querying four archives which could possibly contain the records. Robert Alexander took with him most of the archives of the N&A work at the dissolution of the partnership in about 1960. He died a few years ago, so there is no survivor who could trace exactly what he took and where. I found precious little material at three of the four archival sites. I finally located a graduate student at Cornell, who said she would assist me in delving into what was there. I also enlisted the attention of a librarian/archivist there, who said absent further funding, they could not really tell us just what they had in their collection.

As stated, we checked archives at four sites in an effort to locate evidence of this work. I have concluded that the only hope is the special collection at Cornell University in Ithaca, New York. They do not have a good handle on what they have of us. I have had to employ the services of a graduate student there to find what we did find. To delve more deeply would entail a considerable cost, but could be worth it. I find we are missing original tracings on most of the N&A work of the 50s unless it turns up in the uncatalogued materials at Cornell.

At the same time Ezra was able to establish that a now defunct local A&E firm from Tucson, AZ had site adapted plans to create the project at Ft. Huachuca, and this was verified by a Rex Willoughby, who said the original work was done by the firm he worked with in 1956, and that he and others were aware that the standards had come from the Neutra office. Ralph Comey, another Arizona architect, who did renovations in the 80s of the project also knew of the Neutra origins.

## CONCLUSIONS

It appears that at Ft. Huachuca, AZ, a local firm performed the site adaptation work. Photos of the completed houses were submitted to me some months ago. From them, I can certify that indeed the housing at Ft. Huachuca was designed by our firm.

## FINALLY

A similar project was carried out at Yuma Test Station, AZ in this case by our firm, using our own standard plans. I have been able to locate a microfilm of the standard plans and some site-specific drawings which would establish that any remaining examples at YTS could also be certifiable Neutra designs depending on physical condition and maintenance. I would be pleased to assist in doing this if similar photos could be submitted for verification/certification.

There were certainly other such projects, and further investigation could possibly uncover them. Preservation of examples at each such base would be worthwhile from the point of view of historic preservation. We have been in correspondence with the officials at Leemore Naval Air Station in California, for example, where they have been concerned about saving some examples. Most of the 2000 units we did there are slated to be or have been destroyed.

Please let us know whether this satisfies your need for certification as to the origin of the design for the Neutra and Alexander Army Family Housing units at Ft. Huachuca.

Sincerely, Dion Neutra, architect, 2440 Neutra Place, Los Angeles, CA 90039, 323 666 1806

Below is correspondence from Dion Neutra with interim results of his investigation:

9/17/99

Dear Ezra:

I put in yet another request to my resource at Cornell, where the Alexander papers reside to see what we can unearth. I'm pretty sure we've exhausted the UCLA possibility, so that was our last hope. If I can get something from that quarter by Monday, I'll put together an initial report one way or the other, and have an E on your desk then.

Sounds like you've gotten at least somewhere at your end; glad to hear that verification has come in that the folks were aware that these were Neutra standard plans.

I'm sorry our part has proven to be much harder than expected. There is really a big hole in what I thought we still had available to us. I can't believe Alexander would have actually trashed drawings, but so far, a lot of them are unaccounted for. More early next week.

Dion Neutra, architect, 2440 Neutra Place, Los Angeles, CA 90039, 323 666 1806

## **RALPH COMEY, Interview Highlights**

Below is a letter received from Mr. Comey summarizing his views on the connection between Neutra and Capehart Housing at Ft. Huachuca:

Ezra.

I enjoyed talking with you last week. I think highly of the Neutra housing at Ft. Huachuca and am pleased to write in favor of preserving at least a few of these exemplary houses.

It is sad that most of them will not be restored, because they are a sizable collection of modern houses designed by one of American's greatest 20th Century architects and planners. Although Neutra designed many houses, most of them are isolated designs scattered throughout an urban region, whereas at Ft. Huachuca, there are entire neighborhoods of them - individual houses, duplexes, and row houses. Although they are not yet officially historic by virtue of age, they are nonetheless intrinsically of historic value.

As you know, we were hired by the Corps of Engineers to preserve a group of row houses at Ft. Huachuca in 1990. When I saw them, I recognized that they were unusual contemporary houses designed by Richard Neutra and that the military authorities should be told about this. Thus, I wrote the booklet "Richard Neutra and His Military Housing at Ft. Huachuca", in which I related this housing to the rest of his work. (You have a copy of my report.) The following is a quote:

"When we looked at the existing plans for the houses in our project, Improve 72 Family Housing Units in Deanza 1, Ft. Huachuca, we discovered that they were designed by Neutra and Alexander, a famous California Architectural firm of a few decades ago. I remember Neutra from my student days, and most established architects know of Neutra and respect his work. He has historical significance. This report is an outcome of that discovery.

A careful examination of the title blocks on the plans suggested that the Neutra firm had designed the housing units as prototypes for the Los Angeles Corps of Engineers, but a local Arizona firm, Blanton and Cole, had site adapted them for Ft. Huachuca. We discovered that on the Fort, there are six neighborhoods of these houses in different combinations of units. The houses consist of single family, duplexes, triplexes, four and sixplexes.

The houses for officers are slightly larger, but the floor plans are essentially the same. These units make up a sizable portion of the total housing. They were built between 1957 and 1958.

Few changes seem to have been made to Neutra's drawings. The screen walls around the utility yards vary a little in detail, and some units have aluminum sliders instead of steel casement windows. These are the most noticeable changes to the exteriors. The exterior colors are in conformance with base policy. Neutra's choice likely would have been white stucco with natural finished wood doors as accents. Instead, the houses are painted with one of three or four standard colors.



The interior layout of the houses is fairly straightforward. The sliding door between the living room and one bedroom is an unusual feature for group housing, since the bedroom provides alternative use as a guestroom or study open to the living room. However, the sliding door is less desirable if the room is used primarily as a bedroom. Plywood panels have been used for some interior partitions but all of these have been painted to match the walls. Originally, the panels may have been designed as natural wood accents, but no exposed plywood is noted on finish schedules. The natural finish may have been changed to paint during review. A lively and attractive interior painting schedule was shown on the drawings, but was crossed out with the note, "colors to be selected by Base Personnel". Carports were not included with every dwelling unit. Some of the duplexes and row houses do not have them. In those cases, the walkway and storage room roofs and the utility yard walls were handled differently for aesthetic reasons. In later years, some freestanding carports were added. These are different than Neutra's carports and are not compatible in appearance with the original houses.

Richard Neutra (1892-1970) was an important architect of the modern movement who practiced in Southern California between the 1920's and the late 1960's. During the early years, Neutra's work was a departure from the prevalent traditional architecture of the day. He was fundamentally an International Style architect who used modern technology but brought a humanistic interest and poetic sensitivity to his work. He saw the machine as a positive instrument which could help provide benefits in the creation of new communities and cities. He visualized a collaboration between architecture and industry which unfortunately, never was realized. Most of his projects were carefully designed individual buildings. Although Neutra designed for many climates and countries, he had a special affinity for sunny regions. He was a modern classicist who developed an individual style which evolved slowly and seldom deviated from his original concept of architecture. His buildings expressed the machine and contrasted with nature, but were carefully composed to provide beauty and harmony in a natural setting.

Whether or not Neutra personally designed the housing areas at Ft. Huachuca, the Fort layout exhibits many of his principles. The newer housing neighborhoods are separated from major thoroughfares, and automobile access to housing is provided by narrow local streets or cul de sacs. The houses face continuous protected park areas. The open green areas are pleasant, but there is a need in some cases for fenced yards to control young children.

The row houses in Deanza Village relate to Neutra's later work in planning and in certain construction details, although in their materials and construction systems they are more typical of his earlier period. The flat roofs, the smooth stucco walls, the strip casement windows creating a solid void banding are typical Neutra features. The use of solar shading is standard in Neutra's work as is the large expanse of glass in living areas. The post and beam wood framing at glazed areas and the wood joist roof structure are the usual Neutra structural system. The articulated structural elements expressed as design features appear in Neutra's last period. The outrigger column beam connections in the Deanza walkway roof were used also in several other Neutra projects.

The open planning of the Deanza Houses and the use of strip windows on opposite sides to create uniform interior natural lighting and to provide two sided views is seen frequently in Neutra's work. The Strathmore Apartment plan is similarly open and illuminated. The use of solid/void relationships to articulate spatial movement occurs in the Deanza entry/dining area and in many other Neutra buildings. A similar, more dramatic articulation occurs in the Hansch House. The Neutra houses at Ft. Huachuca are a unique collection designed by one of America's greatest architects. It is not an exaggeration to call them an unrecognized national treasure. We should try to preserve as many of them as possible. I hope that this letter will help to encourage a preservation effort.

Yours sincerely, Ralph Comey, Ralph Comey Architects

### **Rex Willoughby, Interview Highlights**

Below is correspondence from Mr. Rex E. Willoughby, of Blanton & Co. Architects summarizing his understanding of Richard Neutra's connection to the work at Ft. Huachuca:

Blanton & Co. Architects and Engineers,

P.O. Box 30907, Tucson, AZ 85751

September 7, 1999

Ezra E. Abraham      US Army Corps of Engineers

Gentlemen:

This will serve to indicate that to the best of my knowledge, when Blanton & Cole, our firm name at that time, prepared construction documents in 1956 under contract with the Corps of Engineers, Los Angeles District Office, for the Capehart Housing project at Fort Huachuca, AZ, it was understood that the project was a "Site Adapt" of single family, duplex and three/fourplex units based on unit designs prepared for the Los Angeles District Office by Architect Richard Neutra.

Very truly yours,

Blanton & Co. Rex E. Willoughby      President

### **Los Angeles District Corps of Engineers, Results of Archive Search**

Dr. Anthony Turhollow, the historian for the Los Angeles District Corps of Engineers, reports that indeed the LA District did contract with architects for standardized, prototype, housing during the 1950's and 60's. The district used the standardized plans for site adaptation at installations within the district, including Ft. Huachuca.

Dr. Turhollow reports that the LA District has not kept any records of their construction projects of the 50's and 60's. The archives have been turned over to the Sacramento District US Army Corps of Engineers. Part of the archives were also sent to the National Archives and Records Administration at Laguna Niguel, California. Mr. Turhollow states that none of the records would have been indexed by architect.

### **Laguna Niguel, California National Archives, Results of Archive Search**

Wendy Simpson of the Laguna Niguel National Archives sent us a list of archived material they received from the Los Angeles District Corps of Engineers. Under the heading "Records of the Office of the Chief of Engineers (LA District)" very few records show up with the Ft. Huachuca entry. Any mention of Ft. Huachuca in these archives does not include the 1950's construction periods. No headings indicate reference to Capehart Housing, nor Richard Neutra. The archivist confirmed that the records would not be cross-referenced by architect. No further investigation seems warranted.

### **College Park, Washington D.C. National Archives, Results of Archive Search**

Ft. Huachuca was closed as a military installation several times in its history. Upon some of these closures we determined that miscellaneous records were removed to Washington D.C. to the national archives for safekeeping. From 13-24 September ,1999, representatives of the Seattle CX-HP visited the national archive and included a search for related records for this research report.

Mr. Paul Chattey, Architectural Historian at the Center of Expertise for Preservation of Historic Structures, did a methodical search of record group #77 for Ft. Huachuca military housing records.

Mr. Chattey found no mention of Richard Neutra, Los Angeles prototype housing, or Capehart housing at Ft. Huachuca.

### **Sacramento District Corps of Engineers, Results of Archive Search**

Mr. Mark Capik, of the Sacramento District Corps of Engineers, has researched his archives for housing references to Ft. Huachuca. The 105mm-microfilm collection from the LA District procurement office did not yield any mention of military family housing projects at Ft. Huachuca.

---

## Chapter 6. Summary of Findings

Chapter 6 assesses the property's historical significance, as revealed by the research, vis-à-vis applicable evaluation criteria for the National Register. Evaluation Criteria B and Evaluation Criteria A are examined, by applicable subsections, to determine acceptable historical significance.

The research goal of this report is to do a determination of eligibility for listing with the National Register of Historic Places for Ft. Huachuca's Capehart and Wherry family housing. Primarily we were to determine its eligibility based on Criterion B: Association with the lives of people significant to our past.

In particular the CX was to determine the association of architect Richard Neutra (1892-1970) with the design of Capehart family housing built at Ft. Huachuca during the 1950's. Mr. Robert R. Frankeberger, AIA, of the Arizona State Historic Preservation Office (SHPO), raised the possibility of this association. If these structures are eligible for listing then repair, maintenance, or demolition, would not be undertaken without consultation with the Arizona SHPO. In absence of such eligibility the property is handled within the existing Family Housing strategic plan, without constraint of the listing guidelines.

### Eligible as Property Under Evaluation Criterion B?

#### Association With The Lives Of People Significant To Our Past?

We used National Register Bulletin #32, *Guidelines for Evaluating and Documenting Properties Associated with Significant Persons*, for Significance, Association, and Substantiation method guidelines for this evaluation.

#### Eligible Due To Clear Evidence Of Association With Significant Person?

Guideline #10 states that the significance of individuals, and their associations with nominated property, must be substantiated through accepted methods of historical research and analysis.

Statements of significance in National Register nominations should be based on an analysis of hard evidence, primarily in the form of written documentation, the physical resource, or both. Nominations should not be based on speculation or assumptions not based on evidence.

The many directions of our research failed to reveal any written evidence that Richard Neutra was ever associated with the Capehart military family housing at Ft. Huachuca

Blanton & Cole Architects & Engineers of Tucson, AZ, are the only names listed on the title block of all construction drawings for these homes.

No written records exist from the procurement agency that allegedly contracted with Neutra & Alexander Architects for the standardized, prototype, designs.

No written evidence exists within the Neutra estate archives that Neutra & Alexander Architects did prototype designs of military housing for the Los Angeles District Corps of Engineers that was used at Ft. Huachuca. There *is* written evidence of such work being done for Yuma Naval Air Station in Arizona and at Mountain Home Air Force Base in Idaho. See Appendix A.

An archive search for any mention of Neutra & Alexander Architects, or variations on that name, was done at the Los Angeles and Sacramento Districts Corps of Engineers, and the National Archives & Records Administration in Washington, DC and in Laguna Niguel, California. All of these archives are repositories of Ft. Huachuca records of the 1950's and 1960's. No mention of Neutra was found in these archives in connection with Ft. Huachuca.

An oral statement by Rex Willoughby, an employee of Blanton & Cole Architects, does link Neutra & Alexander Architects indirectly with the Ft. Huachuca housing. Mr. Willoughby states Neutra & Alexander was the firm hired to do the prototype housing designs for LA District. Blanton & Cole was later hired to site-adapt the Neutra design at Ft. Huachuca. Mr. Willoughby was not with the firm during this site-adaptation, coming in several years later yet hearing about the arrangement. See Chapter 5.

At best this oral evidence confirms an *indirect* connection of the property to Richard Neutra. We do not know the extent of changes done to Neutra's design by Blanton & Cole Architects in the adaptation process.

### **Eligible Due To Direct Association With The Significant Person?**

Guideline #6 states that significant individuals must be directly associated with the nominated property.

#### **Is Richard Neutra a "Significant Person"?**

Earlier chapters of this report put forth the case that Richard Neutra is a historically significant figure in the realm of International Style architecture. He has been awarded the gold medal for lifetime career achievement by the American Institute of Architects. To investigate the historical significance of the architectural career of Richard Neutra we reviewed his design principles and built work for contributions to International Style architecture. See chapter 4 and Appendix C.

The Ft. Huachuca property must have some connection to the life of the individual in order to be considered an important historic resource. There must be acceptable evidence that the property represents a person's significance in our history. The best example are the individual's homes, offices or workplaces, or locations of important events in which the person played a key role.

None of our research associates Richard Neutra with the Capehart housing at Ft. Huachuca according to acceptable methods of historical research. Neutra's own home and office in Los Angeles, the Health House, would fulfill the intention of this guideline. Nothing at Ft. Huachuca can be found associated with any significant events in Richard Neutra's life. These significant events in Neutra's life did not occur at this property.

### **Eligible As Demonstration Of The Person's Significant Contributions To Architecture?**

Guideline #8 states that a resource should also represent the significant aspects of the person's productive life and important contributions. The property needs to represent the significant aspects of that productivity in some clear manner.

The housing at Ft. Huachuca does not fulfill this requirement. Mr. Neutra's major contributions to the International Style of architecture are better represented in existing homes that are widely acclaimed as his masterpieces. See appendix B and C. Blanton & Cole Architects and Engineers, of Tucson, Arizona, is the only firm directly associated to this property by written and oral evidence.

### **Eligible As Work Less Than 50 Years Old But Of Exceptional Significance?**

Properties that were constructed within the last fifty years, or that are associated with individuals whose significant accomplishments date from the last fifty years, must possess exceptional significance to be listed in the National Register

The military family housing at Ft. Huachuca is indeed less than 50 years old, having been constructed from 1956-1960.

The property at Ft. Huachuca does not possess the exceptional significance required for eligibility. There is no clearly established and broadly recognized significance to this housing recognized in scholarly literature and public consciousness

Additionally, none of our research has established an acceptable level of association with the career of Richard Neutra as the architect responsible for the design of this resource.

### **Eligible As Property Under Criterion C: An Important Example Of An Individual's Skill As An Architect?**

In the National Register Bulletin #32, in appendix A, are additional guidelines for applying Criterion B. Appendix guideline number 5 states that a property that is significant as an important example of an individual's skill ***as an architect or engineer should be nominated under Criterion C rather than Criterion B.***

National Register Bulletin #15, ***How to Apply the National Register Criteria for Evaluation***, lists the Criteria C guidelines for evaluation based on Design and/or Construction :

"The quality of significance in American history, architecture, archeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

(Criterion C) That embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

That embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.”

This criterion applies to properties significant for their physical design or construction, including such elements as architecture, landscape architecture, engineering, and artwork. To be eligible under Criterion C, The Ft. Huachuca property must meet at least one of the following requirements, does it:

**Embody distinctive characteristics of a type, period, or method of construction?**

The Ft. Huachuca property does not embody the best examples of the International Style architecture in the United States or abroad. No scholarly discussion of the property as such is found in our literature search.

However, in another section of this chapter we discuss the historic significance of the Capehart and Wherry Housing program, and the Ft. Huachuca property as an example of a Cold War Era resource.

**Represent the work of a master?**

The Ft. Huachuca property cannot be associated directly as the work of Richard Neutra. The written evidence shows no connection between Neutra and the Ft. Huachuca property. The oral evidence suggests only an indirect association at best.

**Possess high artistic value?**

There is no evidence in our research that the Ft. Huachuca property possess a high degree of artistic value to the nation or state of Arizona. We found no mention of awards, scholarly criticism, nor strong sentiment in the public consciousness to indicate such value

**Represent a significant and distinguishable entity whose components may lack individual distinction.**

This portion of Criterion C refers to districts. A district must be significant, as well as being an identifiable entity. It must be important for historical, architectural, archeological, engineering, or cultural values.

Districts that are significant will usually meet the last portion of Criterion C plus Criterion A, Criterion B, other portions of Criterion C, or Criterion D.

The significance of the Ft. Huachuca Capehart family housing as a historically significant district has not been established in this research report. Significance will not likely be based on any direct association with Richard Neutra. The allowable evidence for such connection cannot be found.

## **Other Evaluation Criteria By Which The Property May Be Eligible For Nomination To The National Register Of Historic Places?**

In light of the obscure connection of the Ft. Huachuca Capehart housing to Richard Neutra, are there other options to determine historic significance of the property for listing on the National Register?

The United States Army Environmental Center (AEC) developed a report entitled "*For Want of a Home...A Historic Context for Wherry and Capehart Military Family Housing*". The Ft. Huachuca properties are typical examples of these remarkable building programs undertaken by the Department of Defense during the Cold War. Toward the end of the 179 page report is an application of National Register Criteria A through C and National Register Criteria Consideration G. The following is an excerpt of that report as it applies to the Ft. Huachuca property:

### **Criterion A: Event**

Some members of the preservation community have suggested that Wherry and Capehart housing may be historically significant for their presumed relationship to the Cold War. Before assigning association of any other buildings constructed between 1945 and 1989 to the Cold War, it should be identified what the Cold War actually was.

Military and civilian historians working together on the DoD Legacy program have suggested that the Cold War be defined as a series of activities leading to the development of nuclear missiles and their associated deterrence technology necessary to protect the United States from communism. Through this measure of definition, appropriate identification and preservation of significant Cold War buildings and artifacts may occur, while maintaining the importance and value of listings on the National Register of Historic Places. Professor Amos Rapaport of the University of Wisconsin, one of the world's leading experts in building typology, has further recommended in determining Cold War association with buildings and structures, one should consider two questions: (1) Were the buildings and structures *directly* involved with Cold War activities? In other words, could the Cold War activities have continued if these buildings and structures had not existed? (2) Would the buildings and structures have existed if there had been no Cold War?

There is no question that Wherry and Capehart housing eased the plight of military families. They were better able to maintain a decent standard of living, and their morale was improved by the existence of these houses. Could Cold War activities have continued without the houses? Most probably. The military may have had to explore different options, such as allocating additional training dollars or developing longer station assignments so that the families might better qualify for mortgage loans. But while the absence of appropriate quantities of family housing made life more uncomfortable for the families, and the construction of the housing made life easier, the fact is that the Cold War was not critically reliant upon Wherry or Capehart housing to maintain the war effort.

In response to the second question, it must be acknowledged that the numbers and types of Wherry and Capehart housing would most likely have existed whether there were Cold War activities or not. The fact is that these houses were constructed on installations involved in a wide range of activities, which had existed prior to the Cold War, including tank driving, field maneuvers and WWII-type aerial surveillance training. There is no question that the U.S. military grew substantially to meet perceived defense needs of both the Cold War and other confrontations during the late 1940s and the 1950s, and that the military housing stock grew along with the population. Likewise did the numbers of schools, health centers, hospitals,



convenience marts, churches and gas stations. To say that Wherry and Capehart housing was constructed *solely because of the Cold War*, however, is placing greater importance than is due.

The United States during the 1950s was experiencing an explosion in the numbers of families, and the building industry responded. Housing developments were constructed where they were needed most, whether to replace low-income units demolished under slum clearance programs, or to provide homes in new locations for a population that was suddenly more mobile than ever before. Towns, cities and businesses throughout the nation encouraged the construction of housing to prevent disease, improve morale, and boost the economy. The military was only one of countless entities involved in this endeavor, and Wherry and Capehart were only two of several military programs designed to carry out this effort. Therefore, based upon the nationwide scope of this historic context, National Register-eligibility under Criterion A cannot be justified.

### **Criterion B: Person**

In evaluating Wherry and Capehart housing under Criterion B, it needs to be determined whether important planners, architects, members of Congress, or military leaders played a part in the programs. Wherry housing was planned and designed by staff members of the Army Corps of Engineers, or employees of the development firms responsible for the construction of the homes. No research has indicated that anyone notable in planning or architecture was associated with these programs. Likewise, the merchant builders of the post-WWII era who introduced significant approaches to house building -- people like Levitt or Kaiser Homes or American Community Builders -- were not associated with the programs. Hal Hayes, while the self-proclaimed "largest home-builder in the world," was never an active participant in the building process, and was only a major stockholder in several of the companies that actually built the homes. Further, no historic documentation of housing during the 1950s and '60s indicates that the Hayes Corporation was ever considered one of the "key players" in the housing arena.

A search of historic records has revealed no connection between any historically significant people either inhabiting this housing, or carrying out any historically exceptional acts in Wherry or Capehart housing. Therefore, the historic significance of these buildings cannot be justified under Criterion B.

### **Criterion C: Design/Construction**

Criterion C applies to properties significant for their physical design or construction, including such elements as architecture, landscape architecture, engineering, and artwork. In order for a property to be eligible under Criterion C, it must meet at least one of four requirements: 1) embody distinctive characteristics of a type, period or method of construction; 2) represent the work of a master; 3)

possess high artistic value; or 4) represent a significant distinguishable entity whose components may lack individual distinction.

A key component of this criterion is the use of the term *distinctive characteristics*. National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation,

defines *distinctive characteristics* as the "physical features or traits that commonly recur in individual types, periods, or methods of construction.....a property must clearly contain

enough of those characteristics to be considered a true representative of a particular type, period or method of construction”.

Wherry and Capehart housing designs are identical to millions of other homes constructed across the United States during the 1950s and '60s. Similar or often identical plans were used for civilian housing and for the military. Even in multi-family units, the same plans were used for the military as had already been constructed for civilian housing. Materials and construction methods used in these houses were likewise indistinguishable from civilian housing, or from other military housing being constructed with appropriated funds.

Wherry and Capehart housing is not physically distinctive, and therefore, significance under Criterion C cannot be justified.

### **Criterion Consideration G: Properties that Have Achieved Significance within the Past Fifty Years**

Wherry Housing was constructed between 1949 and 1955 and Capehart Housing between 1955 and 1962. Consequently, a significant number of these buildings are not yet 50 years old. The National Register Criteria for Evaluation exclude properties that have achieved significance within the last fifty years unless they are of *exceptional importance*. The phrase *exceptional importance* may be applied to the extraordinary importance of an event or to an entire category of resources so fragile that survivors of any age are unusual. This test does not require that the property be of national significance. It is a measure of a property's importance within the appropriate historic context, whether the scale of that context is local, State, or national.

Within a national context, Wherry and Capehart housing does not meet this test. The application of this Criterion Consideration to Wherry and Capehart housing at a local or State level of significance must be conducted on a case-by-case basis, using this historic context as guidance. It is believed that Wherry and Capehart housing will rarely meet this standard.

### **Summary Of National Level Of Significance**

Based upon the research conducted and evaluation of Wherry and Capehart housing in accordance with the National Register Criteria, it is recommended that these buildings are not eligible at a national level of significance, for the National Register of Historic Places. In addition, as these housing units were constructed between 1949 and 1962, a significant number of these buildings are not yet 50 years old. The National Register Criteria for Evaluation exclude properties that have achieved significance within the last fifty years unless they are of *exceptional importance*.

Within a national context, Wherry and Capehart housing does not meet this test. Using this historic context as a basis, an evaluation of local or State level significance may be conducted on a case-by-case basis in accordance with the National Register Criteria for Evaluation, however, it is believed that Wherry and Capehart housing will rarely meet this standard.

## **Conclusion**

Based upon the research conducted and evaluation of Wherry and Capehart housing in accordance with the National Register Criteria, it is recommended that these buildings at Ft.

Huachuca are not eligible at a national level of significance, for the National Register of Historic Places.

In addition, as these housing units were constructed between 1949 and 1962, a significant number of these buildings are not yet 50 years old. The National Register Criteria for Evaluation exclude properties that have achieved significance within the last fifty years unless they are of *exceptional importance*. Within a national context, Wherry and Capehart housing does not meet this test. Using this historic context as a basis, an evaluation of local or State level significance may be conducted on a case-by-case basis in accordance with the National Register Criteria for Evaluation, however, it is believed that Wherry and Capehart housing will rarely meet this standard.

---

# **Appendix A**

## **Correspondence with Dion Neutra**

9/19/99

Dear Ezra:

I finally heard from my contact at Cornell, so I can give you my report on the search to verify 'Neutra at Ft. Huachuca!' Unfortunately, I've shot my wad on this [from the funds advanced thus far], so that this report will have to be the 'final' report. If you wish more detail, dates or another format, we'll have to negotiate further compensation. The same applies if you wish to obtain copies of documents we've unearthed. Let me know. I hope this effort today will suffice for you to save the buildings, which was our original intent and hope. Do keep me in the loop.

Bear in mind that we leave for Europe in two weeks so I won't be able to do much more on this until after November 1.

NEUTRA AT FT HUACHUCA - DION NEUTRA, ARCHITECT, September 19, 1999

## BACKGROUND

The firm of Neutra and Alexander prepared standard plans and specs for Army Family Housing as a part of the Capehart program for the Los Angeles District office of the Corps of Engineers in the mid 1950s. This commission flowed from a visit made to the Washington HQ of the Corps earlier that same year.

As a result of that work, several projects at various bases were carried out using these standard documents. The usual scenario was that a local A&E firm would be commissioned to site-adapt the documents to the local situation.

## GOALS

I was approached by Ezra Abraham of the Army some six months ago or more with the question: "Can you help us establish that surviving Army Family Housing at Ft. Huachuca was designed by Richard Neutra?"

The Goal here, was to establish the connection between the examples of housing which survive there and Richard Neutra, and to certify that the houses were worth saving and restoring on that basis.

I have been working with Ezra since to piece together how that project came into being.

## METHOD OF RESEARCH

I started out by querying four archives which could possibly contain the records. Robert Alexander took with him most of the archives of the N&A work at the dissolution of the partnership in about 1960. He died a few years ago, so there is no survivor who could trace exactly what he took and where. I

found precious little material at three of the four archival sites.

I finally located a graduate student at Cornell, who said she would assist me in delving into what was there. I also enlisted the attention of a

librarian/archivist there, who said absent further funding, they could not really tell us just what they had in their collection.

As stated, we checked archives at four sites in an effort to locate evidence of this work. I have concluded that the only hope is the special collection at Cornell University in Ithaca, New York. They do not have a good handle on what they have of us. I have had to employ the services of a graduate student there to find what we did find. To delve more deeply would entail a considerable cost, but could be worth it. I find we are missing original tracings on most of the N&A work of the 50s unless it turns up in the uncatalogued materials at Cornell.

At the same time Ezra was able to establish that a now defunct local A&E firm from Tucson, AZ had site adapted plans to create the project at Ft. Huachuca, and this was verified by a Rex Willoughby, who said the original work was done by the firm he worked with in 1956, and that he and others were aware that the standards had come from the Neutra office. Ralph Comey, another Arizona architect, who did renovations in the 80s of the project also knew of the Neutra origins.

## CONCLUSIONS

It appears that at Ft. Huachuca, AZ, a local firm performed the site adaptation work. Photos of the completed houses were submitted to me some months ago. From them, I can certify that indeed the housing at Ft. Huachuca was designed by our firm.

## FINALLY

A similar project was carried out at Yuma Test Station, AZ in this case by our firm, using our own standard plans. I have been able to locate a microfilm of the standard plans and some site-specific drawings which would establish that any remaining examples at YTS could also be certifiable Neutra designs depending on physical condition and maintenance. I would be pleased to assist in doing this if similar photos could be submitted for verification/certification.

There were certainly other such projects, and further investigation could possibly uncover them. Preservation of examples at each such base would be worthwhile from the point of view of historic preservation. We have been in correspondence with the officials at Leemore Naval Air Station in California, for example, where they have been concerned about saving some examples. Most of the 2000 units we did there are slated to be or have been destroyed.

Please let us know whether this satisfies your need for certification as to the origin of the design for the Neutra and Alexander Army Family Housing units at Ft. Huachuca.

Sincerely,

Dion Neutra, architect  
2440 Neutra Place  
Los Angeles, CA 90039  
323 666 1806  
[www.neutra.org](http://www.neutra.org)

---

## **Appendix B**

**Ralph Comey, AIA, Essay**

### **“Richard Neutra and His Military Housing at Ft. Huachuca”**

# **RICHARD NEUTRA AND HIS MILITARY HOUSING AT FORT HUACHUCA**

REPORT BY RALPH COMEY ARCHITECTS

AUGUST 15, 1990

When we looked at the existing plans for the houses in our project, Improve 72 Family Housing Units in Deanza 1, Ft. Huachuca, we discovered that they were designed by Neutra and Alexander, a famous California architectural firm of a few decades ago. I remember Neutra from my student days, and most established architects know of Neutra and respect his work. He has historical significance. This report is an outcome of that discovery.

A careful examination of the title blocks on the plans suggested that the Neutra firm had designed the housing units as prototypes for the Los Angeles Corps of Engineers, but a local Arizona firm, Blanton and Cole, had site adapted them for Ft. Huachuca. We discovered that there are six neighborhoods of these houses in different combinations of units on the Fort. The houses consist of single family, duplexes, triplexes, four and six-plexes. The houses for officers are slightly larger, but the floor plans are essentially the same. These units make up a sizable portion of the total housing. They were built between 1957 and 1958.

few changes seem to have been made to Neutra's drawings. The screen walls around the utility yards vary a little in detail, and some units have aluminum sliders instead of steel casement windows. These are the most noticeable changes to the exteriors. The exterior colors are in conformance with base policy. Neutra's choice likely would have been white stucco with natural finished wood doors as accents. Instead, the houses are painted with one of three or four standard colors.

The interior layout of the houses is fairly straightforward. The sliding door between the living room and one bedroom is an unusual feature for group housing, since the bedroom provides alternative use as a guestroom or study open to the living room. However, the sliding door is less desirable if the room is used primarily as a bedroom. Plywood panels have been used for some interior partitions but all of these have been painted to match the walls. Originally, the panels may have been designed as natural wood accents, but no exposed plywood is noted on finish schedules. The natural finish may have been changed to paint during review. A lively and attractive interior painting schedule was shown on the drawings, but was crossed out with the note, "colors to be selected by Base Personnel".

Carports were not included with every dwelling unit. Some of the duplexes and row houses do not have them. In those cases, the walkway and storage room roofs and the utility yard walls were handled differently for aesthetic reasons. In later years, some freestanding carports were added. These are different than Neutra's carports and are not compatible in appearance with the original houses.

Richard Neutra (1892-1970) was an important architect of the modern movement who practiced in Southern California between the 1920's and the late 1960's. During the early years, Neutra's work was a departure from the prevalent traditional architecture of the day. He was fundamentally an International Style architect who used modern technology but



brought a humanistic interest and poetic sensitivity to his work. He saw the machine as a positive instrument which could help provide benefits in the creation of new communities and cities. He visualized collaboration between architecture and industry which unfortunately, never was realized. Most of his projects were carefully designed individual buildings. Although Neutra designed for many climates and countries, he had a special affinity for sunny regions. He was a modern classicist who developed an individual style which evolved slowly and seldom deviated from his original concept of architecture. His buildings expressed the machine and contrasted with nature, but were carefully composed to provide beauty and harmony in a natural setting.

Neutra grew up and trained in Vienna. He was influenced by the early modern architects who practiced there - Otto Wagner and Adolf Loos. Wagner's work evolved from the traditional Renaissance style and started to express the elements of construction-the structural frame and the wall as a system of panels. He believed that modern architecture depended for its effect on simple forms and beautiful proportions. Loos made a complete break with the past and formed buildings into their cubic elements with smooth surfaces and punched wall openings. All ornament was eliminated. He proposed a machine aesthetic and praised simple functional design in utilitarian objects. However, he was a theorist who had few commissions. Neutra also was influenced by Frank Lloyd Wright's 1911 Wasmuth/portfolio and Wright's use of the open plan and the manipulation of space.

After military service in 1917, Neutra worked in Switzerland for a nurseryman, Gustav Ammann, where he learned the importance of the site and the natural surroundings. In 1921 in Brandenburg, Germany, Neutra helped resettle urban workers in the country while employed by the city government. He discovered that the workers were totally unprepared psychologically for their new surroundings. Neutra never forgot this experience. Soon, Neutra went to Berlin where he spent a year and a half working for Eric Mendelsohn, first as a draftsman and later as a collaborator. Although he admired Mendelsohn's architecture, his subsequent work showed little evidence of Mendelsohn's expressionism, and his use of the circle was rare.

He preferred rectangular geometry for buildings, but he used curvilinear shapes in his site designs and gardens. However, Neutra may have been influenced by Mendelsohn's fear that human sensibility could be forgotten in the pursuit of functionalism and mechanization. During this time in Germany, there was considerable artistic ferment, and new architectural ideas were much discussed. Receiving the most attention were the organic architecture of Wright and the related work of Macintosh in Glasgow and Berlage in Amsterdam, the rationalist school of Loos, the buildings of inspired engineers in steel and reinforced concrete, and the romantic projects of Eric Mendelsohn.

In 1923, Neutra left Germany because of the crippling inflation that was disrupting society and came to the United States. He went to Chicago where he met Louis Sullivan and Frank Lloyd Wright, and during 1924, he spent several months in Wright's drafting room in Taliesin. During the same year, he worked in Chicago for Holabird and Roche where he worked on the 2400 room New Palmer House, his first chance to observe the organization of a large building. While Neutra appreciated the practical experience, he felt that the big offices of the day were successful machines that bypassed genuine architecture.

In 1925, Neutra came to Los Angeles and opened his own practice in the drafting room of R. M. Schindler, a fellow Austrian, who had been a student of Wagner's and had spent several years in Wright's office. Schindler came to California -in 1921 to supervise the construction of Wright's Barnsdall House. One of their few collaborations was a competition design for the Palace of the League of Nations.

Neutra's first period of work between the Jardinette Apartments of 1927 and the Nesbitt House of 1942 was one of exploration and discovery. Since his career had been long delayed, his creative energy surged forth. His projects during this phase involved the use of many new materials and construction systems. He developed new details and practices. He experimented widely, but his designs were functional and attractive. His work helped change the course of architecture.

Three apartment projects show the evolution of his style. The Jardinette Apartments were constructed of reinforced concrete. The structure was expressed on the facades, with long spanning beams allowing strip windows below and projecting walls and floor slabs forming cantilevered balconies-simple alternating bands of solids and voids. By 1938, the Strathmore Apartments show a similar horizontal banding with smooth surfaces, but utilized with more assurance and better proportions. The roof plan has become a thin slab floating above the strip windows.

The floor plan organization provides improved livability-more like single dwellings with outside private entrances and broad terraces. Here, the structure is wood framing with a stucco skin, a lighter and more economical system suitable for California. The Kievman Apartments of 1948, a smaller project, is more compact, and has a freer but more complex floor plan. The design themes and materials are similar, but more landscaping is used.

The Lovell House of 1928 was a large, complex steel frame house with gunite concrete spandrels interpenetrating glass panels framed from steel casements. The structure and windows were fabricated in sections and assembled on the site. The balconies were suspended from the roof frame by steel cables. The house was published widely and Neutra was hailed as a technological wizard. He returned to Europe in 1930 as an American delegate to the CIAM conference and he was invited to speak in Japan and the Bauhaus. His second book, *Amerika*, was published in Vienna.

On his return to New York, he was asked by the White Motor Company to design an aluminum motor home. His own house, built in 1933, was funded by a research grant. It was a modest two-story structure facing Silver Lake, but contained innovations such as a divided plan with teen-age living quarters for his three sons, and an office area. A standard wood frame is carried by precast concrete floor joists which allowed wide openings to be constructed economically. Electrically operated sliding glass panels open the informal garden-living room to the patio and folding doors open the formal living room to a porch overlooking the lake. There also was a light strip in the overhang soffit which lighted the garden.

Neutra continued to innovate during the thirties. He used steel walls prefabricated in sections for the 1936 California Military Academy and in 1937 for the Beckstrand House he used aluminum coated steel in 1936 for the skin of the Von Sternberg House and hollow walls of metal floor deck for the 1935 Beard House. The Beard House had an imaginative, practical plan and received the Gold Medal Award of the Better Homes of America. In the Beckstrand House, he tried out diatomaceous earth for floor and roof slabs (lightweight panels of microscopic seashells.) He used cement asbestos panels for single-wall construction when they came on the market, and in 1936 he designed an exhibition house with plywood wall panels.

Neutra was a proponent of prefabrication and used prefabricated elements in his buildings. He also designed several projects for prefabrication. The advances in mass production during this period and the housing shortage made prefabrication seem to him to be a logical development. Although the projects were never realized, many of the new ideas became a part of his design vocabulary.

In fact, all of his houses in a sense have been a search for the prototype for industrial production even though each had its own individuality. The direct solutions of Neutra and other modern architects which grew out of technology during the 30's have been considered cold and puritanical, but the more popular traditional stylistic work constructed at the same time in America's suburbs was romantic escapism which ignored historical and cultural developments..

A new phase in Neutra's work began in the 1940's. Because of the material shortages caused by World War 11, he turned to the traditional materials-redwood, brick and glass-for the Nesbitt House of 1942. But it was a greater transparency here that characterized the new period, and not the materials. A view through the house at the entrance plus the reflections of a mirrored wall created a feeling of openness. Also, the plan was extended and opened.

Although Neutra continued to use redwood, glass was his most important material, and he continued to use it in larger sheets, as these became available. His building became more open and complex in their spatial characteristics. Neutra's buildings seemed most successful when he used a limited palette of materials and exploited them fully. But Neutra's interests went beyond the technical and the aesthetic. Neutra extended the meaning of functionalism beyond utilitarianism to include the sensory and the psychological. He called the house a container for human life. He wanted his buildings to respond to the full range of human needs.

The Kaufmann house,1946, is basically an extended pavilion with thin roofs resting on slender columns. The west exposure is screened by louvers, and the southern and eastern exposures are glazed and open to the site. Wall extensions link the house to the site. The general feeling of the house is of floating roof planes and a weightless enclosure of space. The house is frankly technological and contrasts with the natural desert surroundings but the boulders and the native plantings and the openness of the house itself help link exterior to interior and create a harmonious relationship. In fact, it should be noted that Neutra's design intentions and his construction systems and details help create not only interesting sculptural compositions when viewed from the exterior but also provide the user an experience of interconnected space and a feeling of indoor-outdoor relationships.

The Tremaine House, 1948, with its reinforced concrete structure, is simpler and less articulated. The spaced columns, cantilevered beams, and thin roof seem effortless and classical. The cross-shaped plan develops open pavilions with broad expanses of glass and extending walls and terraces which tie the house to the site. The house resembles a Greek Temple. Glazing is used in clerestories, between beams, and with corner butt joints to create a feeling of openness to the site. Occasionally mirrors are used on walls to dissolve them. Rocks and native landscaping are used effectively to bring nature close to the house.

By 1950, Neutra's work had become simple and direct, with a confident handling of post and beam construction and a masterful command of enclosed space. Two new elements appeared more frequently in his work-water, and the outriggered structure.

Both devices are used in the Moore House, Ojai, 1952, which seems to float above a garden pond. There is a suspended roof edge and an extended "turned-down "beam. These add shadows and a feeling of weightlessness and spatial movement. The Hansch House, 1955 opens to the view but vigorously expresses the split-level plan with extended roofs, beams, and outriggers. These late houses express a humane functionalism and a marvelous richness of space.

He approached the design of his public buildings in a similar spirit. Screens and overhangs are used to control natural light which is provided through long bands of glass. Forms and

structural details are articulated to provide design emphasis. Plans are organized with flexibility and openness. The San Pedro Community Hotel, 1953, has articulated walls and roof planes and an interior feeling of openness. The Ferro Chemical Company, Cleveland, Ohio, 1957, has a dramatic entrance with a projecting roof and an articulated, out-rigged structure. The Miramar Chapel, 1957, uses dramatic building forms and natural light to create a religious atmosphere.

Neutra made many contributions to school design. The Ring Plan School, 1928 (built in 1959) provided individual classrooms and open corridors arranged around patios which were intended as instructional areas. The enclosed, open-air alternative classroom was a favorite Neutra solution. Neutra believed that the traditional classroom presented a number of psychological barriers. He favored one story

classrooms resembling living rooms filled with group action with the teacher becoming a part of the group. The classroom should have a movable glass front connected to a patio used for outdoor activities. The Corona Avenue School, 1935 was such a school. It was one classroom deep with open covered hallways, and it immediately received national attention. The California Military Academy 1936 was a similar design constructed from prefabricated steel. The Emerson Junior High School, 1938, had many of the first floor classrooms connected to patios. By 1938, most of Neutra's ideas on schools became widely practiced. During the following year's, Neutra designed a number of other schools in the same vein.

An imaginative version of the open-air classroom is seen in the series of rural schools Neutra designed for Puerto Rico. He planned them as a part of a village center consisting of an assembly hall, health center and fountain, all grouped around a plaza. The inward-turning plan, or enclosed courtyard, is an ancient design form that Neutra found especially important. Neutra saw the sheltered environment as a defense against mankind's modern enemy-progress. He felt that technology brought benefits but also serious stresses.

The built environment should not increase these stresses but should try to eliminate them through design which addressed the needs of our total physiology. In the same category as schools is the Eagle Rock Playground Clubhouse which is a remarkable cultural center. It has a bold and flexible plan which opens completely to the site and features a three-sided stage. It is a handsome understated building of considerable power.

Neutra did some important work in community design and housing. Between 1923 and 1930 he worked on a model city of one million population called "Rush City Reformed". All forms of transportation were interconnected. The city block was a long narrow strip exposed to the sun, and a variety of housing solutions were included. There were neighborhood traffic free plazas as well as parks.

Certain principles in Rush City Reformed were followed later in his community housing and even in smaller projects. All houses faced green parkways which thus provided safe areas for children to play. Narrow streets at the rear of houses provided auto (8)

access. The property line was ignored and the front lawns were treated as common parks, in order to destroy the usual self-centered confinement of the individual house. Neutra wanted to enlarge horizons and extend property lines. In the Argent Place development at Silver Lake for a number of individual houses, he developed a pleasant openness while at the same time creating privacy. A project for a community of 600 families in Jacksonville, Florida, 1939, locates through traffic at the perimeter with double rows of houses facing green areas which lead to a lineal park.

In 1942, Neutra designed Channel Heights Housing a 600 dwelling community for wartime shipyard employees which included schools, nurseries, community hall, health center, shops-even a garden center. The community was located on a difficult, rolling site cut by canyons, Neutra fitted the houses to the contours of the land and treated the site as a park with one and two story houses integrated in groups. There was a similar a separation of auto and pedestrian areas as in Rush City.

In the Fifties, Neutra and Alexander did a ten year master plan for the island and port city of Guam, and designed a number of urban redevelopment plans, including a 3,400 family project for downtown Los Angeles which unfortunately was not built.

Neutra's philosophy developed from his interest in the biological sciences and in psychology. He felt that the sensory and psychological aspects of humans needed to be studied, understood, and

applied in architectural and urban design. He contributed to the development of a new architecture through functional design, utilization of new materials and construction methods, and in applying new aesthetic and artistic ideas. Yet, this new architecture must respond to human needs and to human nature to be of genuine value. Neutra has contributed to the cultural focus of his region and his own times through his bold and original ideas and through his imaginative and unprejudiced approach to design and construction. He has helped set new aesthetic standards which transcend style and forms and at best achieve a universality. Whether or not Neutra personally designed the housing areas at Ft. Huachuca, the Fort layout exhibits many of his principles (See Ft. Huachuca site plan). The newer housing neighborhoods are separated from major thoroughfares, and automobile.

access to housing is provided by narrow local streets or cul de sacs. The house face continuous protected park areas. The open green areas are pleasant, but there is a need in some cases for fenced yards to control young children. These are provided by temporary fencing, a sensible solution. In plan, these neighborhoods are similar to Channel Heights and other Neutra communities.

The row houses in Deanza Village relate to Neutra's later work in planning and in certain construction details, although in their materials and construction systems they are more typical of his earlier period. The flat roofs, the smooth stucco walls, the strip casement windows creating a solid void banding are typical Neutra features. The use of solar shading is standard in Neutra's work as is the large expanse of glass in living areas. The post and beam wood framing at glazed areas and the wood joist roof structure are the usual Neutra structural system. The articulated structural elements expressed as design features appear in Neutra's last period. The outrigger column beam connections in the Deanza walkway roof were used also in several other Neutra projects.

The open planning of the Deanza Houses and the use of strip windows on opposite sides to create uniform interior natural lighting and to provide two sided views is seen frequently in Neutra's work. The Strathmore Apartment plan is similarly open and illuminated. The use of solid/void relationships to articulate spatial movement occurs in the Deanza entry/dining area and in many other Neutra buildings. A similar, more dramatic articulation occurs in the Hansch House. Thus, the Deanza Houses contain many features which appear elsewhere in Neutra's work. Because they are military houses, they are simpler and more restrained. Yet, with their crisp modern lines and open interior planning and generous use of natural light they seem to be appropriate dwellings for lively young American families.

---

## **Appendix C**

### **Excerpts from AEC Report**

“For Want of a Home—A Historic Context for Wherry and Capehart  
Military Family Housing”

# "For Want of a Home..."

## A Historic Context for Wherry and Capehart Military Family Housing

United States Army Environmental Center

Aberdeen Proving Ground, Maryland

### Introduction

The following is a history of solutions tested by the Department of Defense (DoD) to correct the abysmal living conditions available to military families during the early years of the Cold War. In particular, it is an analysis of the legislative, architectural and planning issues that influenced two of the larger and more influential military family housing programs in DoD history: Wherry and Capehart housing. These programs spanned from 1949-1955 and from 1955-1962, respectively, and provided nearly a quarter-million military family housing units. While these two programs were responsible for the construction of a significant number of housing units, they were only two of several military programs designed to provide housing to military families. In addition, the social and community planning concepts that influenced Wherry and Capehart housing were also illustrated in housing developed by numerous other government and private sector entities during this time period.

Of the nearly 175,000 units that remained in the DoD as of 1995 listings provided by the Departments of the Air Force, Navy and Army, the Army owned a total of 19,367 Wherry housing units and 34,562 Capehart units. These are located throughout the United States.

Just as the start of the Cold War era marked the beginning of Wherry and Capehart housing, the end of this period marks the demise and destruction of these housing units. A concern regarding the status of Wherry and Capehart housing began in the early 1990s as the Army and DoD were reviewing the overall history of the Cold War in an attempt to determine the significant historic resources of that period of military history. This historic context of Capehart and Wherry housing is one product developed out of that review.

The U. S. Army Environmental Center recognized the need to study Wherry and Capehart housing for two primary reasons: to evaluate their historic significance and to share the lessons learned from these programs with the Army housing office. Historic preservation regulations

within the Department of Defense stipulate that any buildings greater than fifty years of age may be historically significant, and therefore, fall under the purview of the National Historic Preservation Act of 1966. Since the end of the Cold War, the DoD has also required all installations to determine whether they have buildings with significant attachment to Cold War activities, so the history of that period (1946-1989) is not lost.

Historically significant buildings which are impacted by Federal projects require some form of mitigation. Sometimes this mitigation is in the form of preservation of the building itself; at the very least, mitigation may take the form of historic documentation to preserve their

history. Mitigation is generally a very costly undertaking; the funding necessary to document Wherry and Capehart houses would deplete scarce dollars installations need to maintain the rest of their buildings. Therefore, it is the desire of the Army to study Wherry and Capehart housing in order to determine if they must be considered and treated as historically significant.

The second goal of this study, to assess the success of the programs, could prove useful to the Army Housing Office. As the current military housing stock is aging, the services are looking at ways to replace housing units in the most cost-effective manner. In the mid-1990s, the Army and the Air Force began reviewing possible programs that they might initiate. As part of this effort, they have considered

resurrecting parts of the Wherry or Capehart programs. A history of the legislative and financial aspects of Wherry and Capehart coupled with an analysis of the housing plans and planning would help the services make more informed decisions regarding future housing decisions. To facilitate these two goals, this Army-wide historic context has been developed for use by the installations, as guidance on the analysis of Wherry and Capehart housing and the evaluation of its significance on specific installations.

### Methodology

Research for this study was guided by the needs of the DoD, and the Army in particular. As such, it followed a double path: capturing the history of the Wherry and Capehart programs; and investigating the evolution of the plans and planning strategies. Because of the similarity between military houses and those constructed in Levittown, a famous post-WWII mass-housing development in New York, studies of that development were used as a model for research. The social, legislative and architectural events of the era were reviewed to determine how these influences affected the design of the homes. Further, Wherry and Capehart housing were compared with typical low- to middle- income housing of the 1950s and '60s to determine how military and civilian homes and neighborhoods were similar in design and social impact.

Primary and secondary data was collected on Wherry and Capehart housing at several installations and at the National Archives in Washington, DC. This formed the basis for the legislative and architectural history of the programs. Interviews were also conducted with current and former employees of the Army housing office at Ft. Belvoir who had played active roles in the Wherry and Capehart programs. They contributed to the understanding of the goals and difficulties of the two programs. Finally, surveys were sent to 250 families, all members of The Retired Officers Association in Florida, to capture the impressions and memories of former residents of Wherry and Capehart housing. Comments from these surveys helped develop a more intimate understanding of these housing programs from the residents' points of view. Review of questionnaire data further helped to create a realistic appraisal of the strong and weak design aspects of these homes, in hopes that this information might be useful to defense housing planners as they look toward the next generation of military housing.

This study is divided into four parts. The first details the status of military family housing during the 1940s, in the years just prior to the introduction of Wherry housing. This section provides examples of the housing available to military families at that time, and the solutions the military, the government and the military families themselves developed to help relieve the abysmal living conditions forced upon many young military families during that period. It will also help the reader better understand the urgent need for the massive military housing programs begun in 1949.



The second and third parts of this study investigate Wherry and Capehart housing, respectively. Military and Federal Housing Authority (FHA) regulations and legislation enacted during the periods of each housing program are discussed in an effort to illustrate how these measures influenced designs of the housing and the neighborhoods, as well as the people who inhabited them. A comparison of civilian housing with Wherry and Capehart programs is also discussed. In the fourth part, examples are given of Wherry and Capehart plans as they were originally built and an analysis is provided of what was considered successful or not, based in part upon personal interviews and mailed survey responses of former Wherry and Capehart residents.

## PART ONE

### NO PLACE TO CALL HOME: THE PRE-WHERRY YEARS

Although U.S. recruiting offices now promise a prospective soldier that he will be treated like a gentleman, they do not mention that if he is a family man he may have to live like a bum." -"New Army Has a Housing Scandal" Life Magazine, March 7, 1949 Post WWII Housing one of the hottest topics on Capitol Hill during the late 1940s was housing. The return of 15 million World War II veterans had collided with a drastic shortage of decent housing, forcing millions of Americans to reside in substandard conditions.

lending policies, had provided barely enough new housing to accommodate population increases. A recognized housing shortage had grown steadily from 1926 through 1948. The depression of the 1930s deprived homeowners and builders of the resources needed to build new homes or maintain existing ones. These spare years were followed quickly by WWII. During this period most existing building resources such as wood, copper, and lead were utilized for the war effort, rather than for bolstering the dwindling housing supply. This one-two punch to the housing industry 2 n, DC Congress and the Nation 1945-1964: A Review of Government and Politics in the Postwar Years, Congressional Quarterly Service, Washington 3Ibid, High Cost of Housing, 24. 10 resulted in a serious shortfall of dwellings necessary to accommodate the rapidly expanding American population.2 During the mid-1940s, the country witnessed a construction pattern similar to that of the post-World War I years.

Residential starts rose at a rapid rate, but were accompanied by a corresponding increase in material and labor costs. Between mid-1946 and mid-1947, however, housing construction declined steadily, presumably because of difficulties in obtaining building materials, as well as apprehension about expected price breaks. Directly after the war, large builders had begun hoarding building materials in an effort to reduce their own construction costs, and selling scarce building materials at inflated prices on the grey market. The federal government was forced to take action to control this type of activity in order to free up materials for more widespread use, and to lower materials prices. When construction got back into full swing in the mid-'40s, the housing industry found itself drastically short of skilled labor and materials. In 1946 the average house took 8 months to build, compared with 3 ½ months building time for pre-war houses.

By 1947, thanks to federally subsidized training programs, this time was reduced to an average of five months. During this period, material costs which had been driven up by alleged grey marketeering declined; however, this reduction was substantially offset by a nearly 73 percent increase in labor costs between 1944 and 1947. During the same 3-year period, the average 890 square foot home increased in price from \$4,139.50 to \$8,009.56, due to escalating labor costs. Many of today's construction practices and policies were developed during the 1940s as a conscious attempt to rapidly bolster the housing stock while minimizing construction costs. The Joint Committee on Housing of the 80th

Congress recommended several ways to expedite the construction of new housing and reduce its costs.

First, it recommended standardizing the over 2,500 varying codes employed throughout the country. Second, it encouraged the standardization of measurements in the building industry and recommended 4-inch increments for materials (brick, plywood, etc.), and 4-foot increments for design of exterior space, a step that resulted in savings of 25-30 percent of the building costs. The Joint Committee then recommended an \$8,100 per unit limit on FHA-insured homes, rather than the current \$1,500 per room limit. The Committee felt that the room limitation lent itself "to a distortion in design to get more rooms without increasing living space and actually increases the cost."

During the late 1940s national concern about juvenile delinquency and health hazards such as polio and other diseases which spread due to unsanitary conditions led to a massive demolition of thousands of low-rent housing units throughout the country, particularly in the more urban areas. Slum-clearance measures reduced the already declining supply of low-cost rental properties as the law of eminent domain forced a great number of the nation's low-income families out of their homes. Authorities had the option of replacing the demolished housing areas with recreational facilities, parks, luxury housing, and businesses or with low-cost rental housing. Investors unwilling to gamble on rebuilding low-rent units further aggravated the housing shortage. Surveys on housing availability identified an unprecedented national housing shortage in 1946, and revealed that approximately nine percent of American families, or over three million married couples, lived two or three couples to a single family home.

The combination of increased population, a long-standing housing shortage, and the inflated costs of new housing left low-income groups almost completely unable to compete for housing. Returning veterans who could afford the down payment and mortgage of a new home often fell prey to unscrupulous developers who lured them into substandard construction through bait-and-switch or other similar marketing practices. In 1948 the Office of the Housing Expeditor recovered over \$500,000 for veterans who had been drawn into buying houses with inadequate heating systems, wavy floors, insufficient foundations which heaved in the spring, flooding basements, and subdivisions with mud roads and driveways, rather than promised expanses of pavement.

"Rather than be separated from their families because of lack of Government quarters and scarcity of adequate rental housing at their places of assignment, many of the service personnel have accepted disgraceful living conditions in shacks, trailer camps and overcrowded buildings, many at extortionate rents. It cannot be expected that competent individuals will long endure such conditions...There is nothing more vital or pressing in the interest of morale and the security of America than proper housing for our Armed Forces." - Secretary of Defense Johnson, 1949 8 The years between 1945 and 1950 marked a turning point in American history: The bombing of Hiroshima and Nagasaki in 1945 brought an abrupt halt to World War II, and simultaneously opened upon the world an unprecedented and terrifying reality: the Nuclear Age.

The following year Winston Churchill announced the creation of an "Iron Curtain" between the West and the Communist states and, two years later, the Soviet Union exploded their first atomic bomb. In 1948 Korea was divided along the 38th parallel, and the "Reds" took one step closer to crossing into the United States' territory of Alaska and forcing Communism onto the American people. In 1950 the Nuclear Security Council called for a buildup of nuclear weapons, so that we might be able to fight the Red Menace.

The panic set in motion by uncertain nuclear and Communist powers changed the face of the United States military. For the first time in the history of this nation, we maintained a large "peace-time" fighting force. These men and women were to become some of the most highly trained technicians ever before found in the military. In order to retain these valuable weapons experts, the Department of Defense was compelled to create an environment in which these individuals would want to continue their service and maintain the level of skills necessary to respond in a moment's notice to a Russian attack.

This goal proved difficult due to one primary obstacle: the lack of decent housing. America in the 1940s was suffering one of its worst housing shortages of the century. The return of millions of troops at the end of World War II, and the surge of new families they created, collided head-on with an already serious shortage of housing which was due to the Great Depression of the 1930s and the lack of building materials during the war. The result was one of the worst housing environments possible for military families. By 1948, the fear of Communist expansion had expanded the military to a total of 1,445,910 military personnel, compared to 250,000 in 1935. Of these, almost 75 percent were married, compared with 25 percent married personnel during the late 1920s.

After the long separation from their loved ones during WWII, military personnel sought to establish families and a stable home life. The Cold War was expected to continue indefinitely; and while personnel may have been willing to live without their families during the active war period, they were unwilling to be separated for a conflict with no end in sight. Family housing had been authorized for only the higher-ranking officers during and prior to WWII; as a result, only limited numbers of military family homes had been constructed between 1935 and 1949. With the onset of the Cold War, U.S. Congress, House. Committee on Armed Services, Special Subcommittee on Wherry Acquisitions, Acquisition of Wherry Housing, May 20-22, 1959, Washington, DC: 1950-1951. 10 Aurand, LT. Gen. Henry S., "Housing for Army Families" Army Information Digest, (October 1948): 4. 15 enlisted personnel were for the first time in American military history authorized to bring their families with them to their duty locations. This large influx of families was met by a military almost completely unprepared to accommodate them. The joy these families felt in remaining united changed quickly to dismay as they realized they might have no homes in which to live.

Early Cold War Military Housing Plight Siting of military installations during the early Cold War period only exacerbated the housing shortage. Some of the new installations were located in remote areas, miles away from even the nearest village, while others were set within already overcrowded communities. The net effect was the worst military housing shortage in the nation's history. Congressional subcommittee reports revealed a shortage of 235,000 family housing units in 1949; Lt. General Henry S. Aurand of the Army 9 announced in 1948 a shortfall of over 193,000 housing units in the Army alone.

Military families that chose to stay together were met by an often nightmarish existence of subhuman habitations, skyrocketing rents, and seemingly no way to improve their situation. During the two years after V-J Day, the DoD attempted to accommodate the newly arriving military families in existing World War II barracks and hospital wards. 11 Temme, Virge Jenkins, Wherry and Capehart Military Housing Study, A Survey of The Retired Officers Association, 1994. 16 Approximately 12,800 housing units had been carved out of these buildings; for the most part they were cramped quarters which afforded no amenities and minimal privacy. Military personnel who could afford to purchase their own trailers were offered the opportunity of renting spaces at government-built trailer communities. Even these measures, however, provided only limited relief. The typical housing conditions available to most military families during the late 1940s were those which we would today associate with the more destitute third-world countries. The national housing

shortage affected military families more strongly than other groups partly because of their difficulties in obtaining mortgages. They were often stationed at installations for indefinite periods of time; as a result, banks considered them transient and therefore risky borrowers. Additionally, although they received attractive benefits such as housing allowances, retirement and medical care, lower ranking military families were often paid low wages. So while the country's housing construction effort was in full swing, military families found it nearly impossible to obtain home mortgages.

One retired Air Force officer reported that, "Pay was low and reaching down-payment on a nice home with affordable mortgage payments was tough in many instances....I rented an apartment in town and installed my own water heater and cooked on a kerosene range!"<sup>11</sup> Obtaining decent rental units was an often insurmountable challenge. Communities did not have the resources to accommodate the thousands of incoming <sup>12</sup>DiSalle, Michael V., Chairman Defense Areas Advisory Committee, Letter to Hon. Frank Zeidler, Mayor, City of Milwaukee. Washington, DC (December 23, 1952). <sup>13</sup>"Sparta, Region Rents Rise To Staggering New Heights: Rooms, Homes, Apartments Go To Top Bidders", Monroe County Democrat, Sparta, Wisconsin (October 1950): 1. <sup>17</sup>troops and defense workers in and around military installations and defense production plants.

Military families were often forced to live in tar paper shacks, converted chicken coops and corners of damp basements; a colonel in Alaska was forced to rent a converted beer truck trailer for lack of any other adequate housing. Unscrupulous landlords who were aware they had a "captive" market often forced rent prices so high that military families either went broke trying to pay rent, or were forced to take grossly substandard quarters for themselves and their families. Rent increases of over 200% in and around newly established military posts were not uncommon. In Milwaukee, a Defense Department study revealed that "of the 15,986 rental units provided, 6,999 contain three rooms or less, about 60 percent of which rented for \$85 per month or more, and about 25 percent had restrictions against children." One soldier's wife with two children told of living on a \$92 per month <sup>12</sup> allotment, out of which she paid \$65 for rent.

This was at a time when mortgage <sup>13</sup> payments for a medium sized home were \$44 per month. Housing-related problems faced by military families included health concerns and the destruction of the family due to stress. Polio, a major health epidemic during the 1940s, was a threat particularly heightened by unclean living conditions. Lack of indoor plumbing in many of the rental properties offered to military families was a very real concern. As one example from many across the nation, the Waukegan (Illinois) <sup>14</sup>The Waukegan News-Sun, Waukegan, Illinois (22 December 1955) 1. <sup>15</sup> 5 Groups Seen Hit Hard If Rent Control Ends, Dayton (OH) Herald-Journal, (July 29, 1955): 1. <sup>18</sup> News-Sun reported that fifteen Gurnee defense worker families were forced to share the same toilet; the result was the contraction of polio by four of the children. <sup>14</sup> Many military families, faced with paying nearly 70% of their income toward housing, were often forced to ask for financial assistance in the form of military family relief pay in order to purchase medical supplies, clothing, or even food for their families.

The effect of these impoverished living conditions took their toll on many young military families. Wives who refused to raise their children in slums threatened to return to their pre-military homes until the husband's service period was complete and he could rejoin the family in a more suitable home environment. Other families crumbled under the stress and simply divorced. "Lack of housing causes many of our divorces and separations," reported the Dayton, Ohio housing supervisor Mrs. A. V. Dickerson, when commenting on defense families. <sup>15</sup>

Housing examples at Installations Chanute AFB The Senate Preparedness Subcommittee of the Armed Services Committee reported that housing at Chanute Field in Rantoul, Illinois, presented a dismal picture. When habitable quarters were available, the price was high. In one instance a student officer was found paying \$125 a month for the use of three rooms in a one-family 16Memorandum from Ivan D. Carson, Chairman, Advisory Committee on Defense Areas, Dec. 19, 1951 19 dwelling. The American Red Cross reported that many requests for family assistance involved cases where exorbitant rental payments so depleted the family funds there was no money for other necessities.

A survey by camp housing officials indicated that rents were from 60 to 150 percent above their fair value. The same report told of 40 one-room units made from airplane motor crates that were rented at \$42.50 per month and up, and twenty converted chicken coops that rented for \$85 plus utilities. Between 65 and 70 percent of dwellings offered in Urbana-Champaign, fifteen miles from Chanute, were substandard (no flush toilets or kitchen sinks), and in many cases a charge of \$5 per month was included for the use of outside toilets. Doubling up was also a problem, with as many as five couples sharing from three to six rooms. Seventy percents of these families had to pay an additional \$19 per month for heat.<sup>16</sup> Wright-Patterson AFB Dayton Ohio's population jumped from 105,554 in 1950 to 457,333 in 1951, due primarily to defense activities on and around Wright-Patterson AFB. In order to accommodate incoming military families -- and to line their own pockets more substantially -- many landlords converted their single-family houses and garages to multi-family efficiency flats.

One of many examples was a report from the building inspector in Springfield, Ohio, near Wright-Patterson Air Force Base, citing reported 20 instances of overcrowding and doubling-up: "This evidence is in the way of the remodeling that is taking place in the older buildings whereby single family units are converted to duplexes and duplexes are converted to 3 or 4 family units. The 1950 report indicates nearly one quarter of all the dwelling units in the City of Springfield are now dilapidated or without running water or private bathroom facilities." Some landlords, faced with an overabundance of applicants for the limited rental supply, went so far as to auction their rental units off to the highest bidders. News articles chastised the services to assume more responsibility for housing these military personnel who would be protecting our nation, and cautioned that the military would keep losing men at the end of their enlistment period simply because their families would refuse to live in slums. Reports of rent-gouging and substandard living conditions flooded the DoD. A typical letter which landed on the desks of Congress came from Mrs. R. Meisenholder of Dayton, OH, who wrote Sen. Robert A. Taft on 11 June, 1951, to plead for the new military families arriving at Wright-Patterson Air Force Base: "Military people are here on orders -- not from choice (though it is a wonderful place to live). Yet there are very few rental places available; and of these few children are not accepted.

We are among the fortunate in that we have a two bedroom unfurnished apartment -- paying \$125 a month rent plus all utilities and heat. How many can do that? It is "pinching us." We would gladly buy a house except that...we must pay at the least \$3,500 to \$5,500 cash (for the down payment). And paying \$125 a month rent we can't begin to save enough to meet that cash requirement. It is the proverbial circle. There are military people here paying \$75 a month for three rooms, carrying their water, sharing bath rooms with several other families." <sup>17</sup>Ibid, Monroe Country Sentinel: 2. <sup>18</sup>The Chicago Herald-American, (August 22, 1951): 2. <sup>21</sup>Camp McCoy Many communities across the nation rallied to protect military families from rent-gouging and substandard housing. A heart-wrenching editorial in the Monroe County Sentinel appealed to patriotism and human decency on the part of landlords around Camp McCoy, Wisconsin: "[Go] as easy as possible on rents. Our country is faced with an emergency. Our young men and women are returning to the armed forces to strengthen our nation's sinews....

Youthful soldiers and their wives are coming thousands of miles to be stationed at Camp McCoy. They are not coming here voluntarily. They arrive with crying children who are seeking places to be housed. It is enough that they are thus unfortunately displaced, without their also becoming victims of a rent squeeze....Have you ever been a guy in his twenties a thousand miles from home, hearing your baby cry in discomfort, watching the look of anxiety on a young wife's face as the two of you wonder under what roof you will seek shelter on this night? It takes a heart of flint to miss the hopelessness and despair of those circumstances."

Other editorials, such as this one, were more direct in placing the blame where it lay: "When (landlords) charge penthouse rentals for tarpaper shacks, ramshackle trailers, cellars and attics, it is clear they have put greed before their duty to their country...Their profiteering impedes America's rearming."<sup>18</sup> Concern for Readiness The DoD's concerns were pragmatic and mission-related. Retaining trained officers and enlisted personnel on a career basis became a primary goal for the DoD. 19U.S. Congress, Senate. Committee on Banking and Currency, Review of Military Housing Programs, 56th Cong., 1st Sess., 12 April, 1957; Washington, Dc: GPO. 1. 22 This was particularly so because our war machinery had become progressively more complex, and without highly qualified and experienced personnel their operation would be rendered impossible.

As the cost of training highly skilled technicians continued to rise with the advancement of technology, the government could not afford to continuously lose skilled personnel. The DoD recognized that married military personnel would not become career personnel unless they had reasonable assurance of maintaining the family unit. The ability to hold the family together was significantly influenced by the quality of their living environment -- their housing. Personnel who did not want to be separated from their families, or who were threatened with divorce due to the bad living conditions, simply did not reenlist. In his statements before the Senate Banking and Currency Committee Gen. Curtis LeMay, commander of the Strategic Air Command (SAC) cited the loss of airmen over a four year period through failure to reenlist; he stated that of five factors found to be of major influence in decisions to leave the service, the lack of adequate housing was the most important.

In addition to reducing reenlistment percentages, lack of housing caused other problems that hindered military readiness. First, in order to find decent housing, many military families had to live as much as an hour or two from the base. In the event of a surprise enemy attack, it would have been impossible for technicians to arrive at their posts in time to carry out the tasks necessary to defend the country. Secondly, the 23 abysmal living conditions and the lack of money military personnel faced due to inflated rent costs resulted in lowered morale and the inability of many individuals to keep their minds focused on the military tasks at hand. The government realized quickly the pressing need to correct the situation if we were to maintain our armed forces in an adequate state of readiness. Government Measures to Provide Relief The Federal Housing Authority As part of Roosevelt's New Deal, the Federal Housing Authority (FHA) was established under the National Housing Act of 1934.

Created "to encourage the improvement of housing standards, facilitate the flow of private mortgage money through a system of Government mortgage insurance, and help stabilize the money market," the FHA was authorized to insure mortgages made by qualified private lenders for "new and existing one-to-four family dwellings, multi-family rental housing projects and mobile home courts, cooperative housing of five or more units, condominium housing, and property rehabilitation and improvement." At the time, standard bank mortgages were available for 40-50 percent of the appraised value of the house, and repayable in three to five years at interest rates of 5- 9 percent. Because of high foreclosure rates during the Depression, banks were hesitant to provide loans requiring little down payment, or amortized over longer periods.

The FHA, however, offered 90 percent loans with low interest rates, payable over a period of up to 30 years, making home ownership finally available to most families. Bankers who agreed to the FHA terms were guaranteed recovery of a certain sum from the government in the event of default. <sup>20</sup> The FHA helped generate the construction of a great number of new homes, and relieved some of the pressure for housing within some communities. During the post WWII era, the FHA even offered modernization loans to convert Quonset huts and chicken coops to housing -- and gave tips for redecorating the chicken coops in special "women's page" supplements to their technical bulletins! <sup>21</sup> The military was able to secure assurance from the FHA that it would insure the mortgages of builders who would construct rental units in areas inhabited by military families. The sole financial responsibility for the project, however, was on the builder; and very few builders were willing to enter into such a risky financial venture as building rental units in remote areas or those with uncertain occupancy futures.

Federal government measures enacted during this period sought housing relief for the nation. The Lanham Act of 1940 had provided over a million housing units for defense workers flocking to the "Arsenals of Democracy" such as Detroit, Los Angeles, Oakland, Atlanta, Portland and Dallas. After the war, these defense towns offered the <sup>22</sup>*ibid.* <sup>246.</sup> <sup>25</sup> Lanham housing to the World War II workers and their new families who had chosen to stay in the communities. Newly arriving Cold War military families who hoped to occupy vacated Lanham housing were met instead with "no vacancy" signs posted by communities that were already bursting at the seams with vast numbers of rapidly growing World War II families.

The Housing Act of 1949 marked a dramatic turning point in housing and home ownership as we know it today. Its stated objective was simply "the realization [of decent housing] as soon as feasible for every American family." Section 608, the multifamily portion of the Housing Act, underwrote 711,000 units in apartment buildings between 1949-1958 in an attempt to create decent low-cost rental housing for urban dwellers. Government officials, though, did not see the Housing Act of 1949 as a way to help families in the cities, since they associated healthy family life with non-urban settings. Shoddy construction and cramped sizes provided almost no relief for urban families with children. President Harry Truman helped promote the suburban family ideal when, in an extemporaneous talk on housing, he told participants at the 1948 White House Conference on Family Life that, "children and dogs are as necessary to the welfare of this country as is Wall Street and the railroads." So while suburban <sup>22</sup> <sup>23</sup>*Letter* from John P. McCollum, Regional Representative, Region IV, Rantoul, Illinois Critical Defense Housing Area, November 13, 1952. <sup>26</sup> developments sprawled, good rental housing in urban areas and areas outside of established suburban areas continued to be a rarity.

### Rent Control and Defense Districts

Two programs established during the late 1940s were targeted specifically to help military families and defense workers: rent control and the development of defense districts. Rent control, enacted under the Housing and Rent Act of 1947, helped curtail rent-gouging nationwide through 1949, at which time many rents escalated by 30%, the federal cap. Then, through state and local regulations and federal intervention, certain areas were allowed rent control throughout the Korean War, on a case-by-case basis. The prospect of decontrol was often met by heated debates between landlords and the military, as decontrol usually meant skyrocketing rents for already tapped military families. Maj. Gen. Bryon E. Gates of Chanute Air Force Base in Rantoul, IL, warned that "This base would become a tent city if rent controls are removed now...decontrolled rents are very high with three to six months rent in advance being asked."

The establishment of Defense Districts also assisted in maintaining rent control. Early in the Cold War effort, Congress recognized that population shifts necessitated by the build-up of the armed forces and the recruitment of industrial workers would create <sup>24</sup>Letter from Michael V. DiSalle, Chairman, Defense Areas Advisory Committee, to Mayor Frank Zeidler, Milwaukee, WI, 23 December 1952 <sup>27</sup> or aggravate housing shortages in some communities. It further recognized that lack of housing for military and defense families was not merely an inconvenience or personal hardship on these families; it was clearly perceived as “an impediment to the mobilization against communism.” Congress incorporated in the Defense Production Act Amendments of 1951, Public Law 96, special machinery for the certification of “Critical Defense Housing Areas” where full rent control could be instituted if it was found to be necessary. The following qualifications were developed and strictly followed for selection of Defense Districts: 1. A new defense plant or installation has been or is to be provided, or an existing defense plant or installation has been or is to be reactivated or its operations substantially expanded, 2. Substantial in-migration of defense workers or military personnel is required to carry out activities at such plant or installation, and 3. A substantial shortage of housing required for such defense workers or military personnel exists or impends which has resulted or threatens to result in excessive rent increases and which impeded or threatens to impede activities of such defense plant or installation. <sup>24</sup>

#### Providing and Improving Homes

Controlling rents and establishing Defense Districts, while helpful in protecting military families from inflated costs, did nothing to improve the types or numbers of homes provided. The DoD continued to construct family housing with military funds allocated specifically for housing. During this period, though, most military funds were <sup>28</sup> obligated to the development of weapons and the training of personnel; funds for housing were therefore scarce, and resulted in only limited numbers of new units. In order to supplement the housing supply, the government sought various types of special housing aids to alleviate the housing shortage, primarily through private enterprise. Pre-fabricated housing was supported, as was the development of trailer parks. Housing developers were encouraged by federal officials to build “permanent” rental units in order to meet the needs. In general, the escalating cost of building materials and the fear that the bottom would fall out of the housing market deterred developers from investing in the construction of rental units. Developers were especially leery of building rental units specifically for military families because the duration of the Cold War, and hence the installations themselves, was uncertain. Builders understandably

wanted assurance that they would have a market for their units for at least thirty years, or the time necessary for total amortization of their investment.

#### Solutions by Military Personnel Strategic Air Command

Faced with the choice of high-cost shacks or leaving the service, some military personnel took matters into their own hands. At one Air Force base members of the Strategic Air Command (SAC) planned to build 4,000 prefabricated houses themselves in their spare hours, on military land set aside for family housing. Personnel proposed <sup>25</sup>Ibid. Aurand, Lt. Gen: 13. <sup>29</sup> to use their housing allowances to make payments over the 4-1/2 years necessary to pay for the units, and then upon transfer from the installation, award of the unit to SAC, at no cost. SAC officials were supportive of this plan; yet the ultimate decision came from the Comptroller General, who refused to authorize off-post housing allowances to be used for on-post housing. SAC calculated that over 111,848 airmen were lost during a four year period, through the failure to reenlist; the overwhelming reason for leaving was lack of decent housing.



## Ft. Bliss Homes

There were some successes in this personnel-initiated approach, however. At Ft. Bliss, Texas, 211 four-room, prefabricated units were built by enlisted personnel for their own use. Each prospective tenant put up an initial deposit of \$300 for materials and contributed his labor as well. The Army Emergency Relief and private enterprise assisted in financing the cooperative undertaking. The two-bedroom, 20x 30-foot Ft. Bliss homes were completed at an approximate cash cost of \$1600 each, plus utilities.<sup>25</sup>

## National Coverage of Military Housing Problems

While efforts were made in earnest by the government and military personnel to improve the living conditions of the military family, they remained for the most part unchanged. Rent-gouging and substandard housing continued to be the standard fare for military personnel. One article that brought the plight of the military family to widespread public attention -- and which was perhaps the impetus for aggressive governmental response -- was published in *Life* magazine on March 7, 1949. *Life* magazine not only revealed that military families around Ft. Dix and two other military installations were living in plywood huts, garages, and hen-houses, and that 25 families were sharing a **single toilet**; the magazine went on to point the finger of blame directly at the U.S. Army and Air Force. Investigation revealed that the military, despite their full knowledge of the situation, had done nothing to remedy it. Additionally, *Life* discovered that the Army had condemned 330 of their huts as "unfit for human habitation," and then sold them to enterprising landlords, who rented them at escalated prices to military families. According to the article, the Army's proposed solution to family housing shortage was to disallow anyone in the first several grades of enlisted status to enlist or reenlist if they had a family. Public outcry, however, prompted the government not only to rethink this hastily offered solution, but also to consider a more permanent and humane solution to this growing epidemic.